Spreckels SUGAR BEET Bulletin

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VOLUME 19 1955

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SPRECKELS SUGAR BEET BULLETIN



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BEEF FROM BEET TOPS

Beet growers can add to their income by utilizing beet tops

BALING
ENSILING
FORAGE HARVESTING

are some of the ways to utilize this valuable product. See Page 2.

Vol. 19 JANUARY-FEBRUARY, 1955 No. 1

PUBLISHED FOR CALIFORNIA SUGAR BEET GROWERS BY THE SPRECKELS SUGAR COMPANY



BEEF FROM BEET TOPS

By VERNON D. SHERWOOD

Field Superintendent, Spreckels Sugar Company

THE SUGAR BEET industry of the state has, for many years, realized the great potential in sugar beet by-products that could be utilized by the cattle industry. The principal utilization of sugar beet by-products in the past has been the feeding of sugar beet pulp in the wet and dry forms. But there are other feed values that might be realized by sugar beet farmers, and it is the purpose of this article to discuss a particularly successful example.

This year the Richter River Farms, managed by T. B. Wadsworth, have maintained a feed lot in the Natomas district of Sacramento County. In April, 540 head of cattle were purchased, ranging in age from 12 to 15 months, and fed from April to the 15th of August a 100% ration of chopped green alfalfa. This feed has been purchased from local growers at prevailing market prices, which in this district is $2.50 per ton.

Late in August with beet harvest under way, the Richter River Farms manager, realizing the high food value in chopped green beet tops, made contracting arrangements with a Spreckels sugar beet grower, John Silva, to feed that portion of beet tops that could be utilized by his animals. As the project was continued, it was found the optimum ration was 15% chopped beet tops and 85% chopped green alfalfa. This ration was consumed with relish, and was continued until October 15th when the cattle entered into a concentrated feeding program to fatten them for market. Here again, sugar beet by-products contributed to the dry concentrated diet, which consisted of 40% dried beet pulp and 60% rolled barley. The Richter River Farms plan to continue this concentrated diet until such time as the cattle attain a desirable market weight which should be prior to December 1st.

According to Mr. Wadsworth and Mr. Silva, the plan of this feeding program has worked very well. Mr. Silva began his harvest of sugar beets in mid-August, and even with strict harvest quotas, the cattle feeding operation has been provided with sufficient tops to meet the feeding schedule.

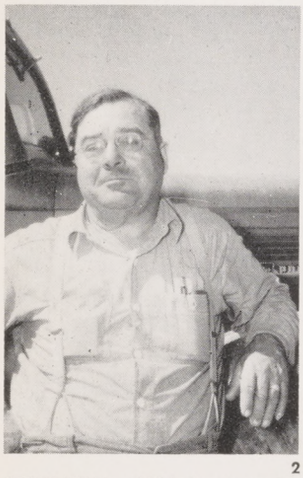
The sugar beet tops were harvested with an Allis Chalmers forage harvester, loaded into a self-unloading wagon and transported to the feed lot. The Allis Chalmers forage harvester has a 66 inch wheel base which perfectly fits the row spacing of Mr. Silva's 22 inch beet planter. Tops were cut immediately ahead of the beet harvesting operation and yielded approximately 6 tons of chopped tops per acre. Mr. Silva states that his harvester, a Marbeet Midget, worked better where tops were precut than where they were not. In observing the sugar content of those beets that had their tops foraged and those that did not, there was no significant difference in sugar content, as would be expected with foraging done immediately before harvesting the beets.

The price paid for chopped beet tops was a compromise between their actual feed value and the service rendered by the purchaser in doing his own top harvesting, and in expediting the beet harvest. The price was $1.25 per ton of chopped tops. While this appears low in relation to the $2.50 paid for green alfalfa in the field, it represents a cash revenue to the beet grower of $7.50 per acre, since the field yielded six tons of chopped tops per acre. It must also be realized that chopped beet leaves contain more moisture than chopped green alfalfa. While the total digestible nutrients, dry basis, are at least equal to alfalfa, the beet leaves contain more moisture (about 80% compared to 70% for alfalfa). This represents a dry matter ratio of:

$$(100\text{-}80) \div (100\text{-}70) = 20/30 = 66\tfrac{2}{3}\%.$$

Thus the beet tops contain about 66% of nutrients of alfalfa on a wet, or harvested basis.

It is to be hoped that more California feeders and beet growers will make such mutually beneficial arrangements as the plan worked out by Mr. Wadsworth and Mr. Silva.



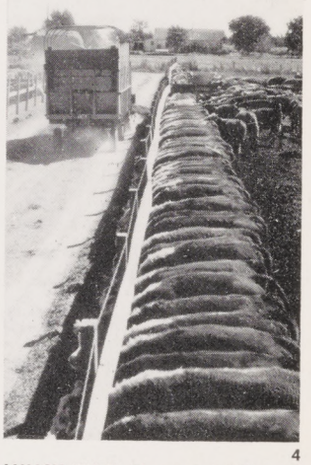
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JOHN SILVA sold his beet tops for about $7.50 an acre and profited by improved beet harvester performance after defoliation.



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THE ALLIS-CHALMERS forage harvester went directly from the alfalfa field to the beet field, where it cut and chopped six tons of beet leaves per acre. Chopped tops, blown into the trailer, were hauled from beet field to feedyard by the same tractor and the single operator who did the entire harvesting-feeding operation.



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LUNCH TIME. The palatability of chopped beet tops is attested by this photo. It looks like a unanimous decision.

THE 1954 AND 1955 CROPS

By GUY D. MANUEL
Vice President and General Agriculturist

THE 1954 CROP will, when the remaining portion of it is harvested in spring, be the largest sugar beet crop ever grown for Spreckels Sugar Company. Partly as a result of this, the acreage the company contracts for the 1955 crop will be considerably less than the acreage allotted our growers under the proportionate shares program.

These facts and related information should be of special interest to our growers. So I would like to review 1954 crop and look ahead to the 1955 crop here.

RECORD YIELDS IN 1954

Just one year ago I made the following statement about the 1953 crop in these pages: "Growers in both the Salinas and Sacramento-San Joaquin areas produced crops which broke all previous yield records for their districts." Already part of this statement is out of date. For the average yield of the 1954 crop in the Sacramento and San Joaquin districts to date has exceeded the average yield of the 1953 crop by more than 10 percent. In the Salinas-Hollister district, where harvest has been completed, the per-acre yield was just short of the record 1953 yield. Considering all the company's growing areas as a whole, the 1954 crop promises to set a new yield record.

The net result is that while the acreage harvested by the company in the 1954 crop year will be only the third largest in the company's history, the sugar production from this crop will be by far the greatest in its history.

The high yields in all our growing areas reflect careful farm management. Only skillful handling of the crop from soil preparation through final irrigation could have produced such results. We of Spreckels congratulate our growers for their use of modern farming methods.

COMMENTS ON THE FALL HARVEST

Let me comment on the recently-concluded fall harvest which, as you might expect, was the biggest in the company's history.

First of all, the extensive early plantings enabled the harvest to begin two weeks to a month earlier than usual. This gave later plantings a full opportunity to reach maturity, which of course is one reason for the high yields of this crop.

Next, in setting up and maintaining our harvest schedules, we enjoyed complete cooperation from all concerned—growers, harvest operators, and railroad personnel.

Finally, the performance of our factories was excellent. Improvements made during the past several years resulted in improved daily slicing rates at each one of them. Consequently, up to December 1 the factories had sliced more beets than in any previous fall campaign, even though there had been more days of harvest prior to that date in some years.

All these factors contributed to making the 1954 fall harvest generally free of the aggravating ups-and-downs that have characterized some previous harvests.

THE SPRING HARVEST

Before leaving the 1954 crop, I want to mention the spring harvest which will begin as soon as the rainy season is over. We are convinced that by planning to carry a certain portion of each crop over until spring, we can do a better job of handling the harvest in the fall. Quite apart from that, though, the results of the spring harvests of the past four years should be encouraging to our growers. For they show that over-wintered beets, far from deteriorating as was commonly believed five years ago, make additional growth during the winter months. And, providing over-wintered beets are harvested before bolters become woody, the sugar percentage does not drop appreciably and, under certain conditions, actually shows a gain.

Thus experience has proved the benefit of spring harvest both to us and to you. It now seems destined to become a regular part of our operations.

ACREAGE POLICY FOR THE 1955 CROP

While the records both already achieved and expected to be set in the 1954 crop year are a source of pride to all of us, they nonetheless raise problems that will affect all of us. These problems were touched on in the letter our president, Charles de Bretteville, sent to all our growers last December 31. Briefly, they come down to this.

In calendar 1954, Spreckels, along with every other beet sugar processor in the country, had the amount of sugar it sold limited by the Department of Agriculture. This will happen again in 1955, in accordance with the requirements of the Sugar Act. Thus, with record sugar production for the 1954 crop, and with sales restricted by the government, we find ourselves with a huge frozen inventory of sugar. For obvious reasons it is imperative that we make some reduction in this inventory during the coming year. The only way to do this is to produce less sugar in the 1955 crop year than the amount of our calendar 1955 marketing allotment.

That is why we have informed growers, through Mr. de Bretteville's letter and in meetings, that we cannot accept all the acreage that has been allotted to them under the proportionate shares program for the 1955 crop. If we did, the resulting sugar production would unquestionably exceed our 1955 marketing allotment. Naturally we disliked making this decision, but we had no other choice.

Let me conclude by saying that to be fair to everyone we are making the same percentage reduction in acreage in all of our growing areas.



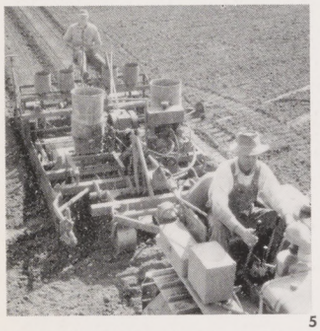
COMBINE PLANTER NOW IN PRODUCTION

The popularity of combine planters in the Woodland area is attested by the growing number which have come into use since Fred Tadlock built his first model in 1949. At least ten similar machines have been acquired by Spreckels growers in the succeeding years.

Forseeing the widespread adoption of the combine planting system, Roy Johnson of the Johnson Farm Machinery Company at Davis negotiated a license to build the Tadlock machine on a production-line basis.

Earlier models of the Tadlock machine were closely studied so that a new design, adapted to commercial production, was evolved. This new design embodies a number of features of interest. The machine is available for either thirty or forty inch beds, and will accommodate a wide range of planting units and fertilizer applicators. Thus purchasers may elect to attach such units already in their possession.

The Johnson machine, like those built by Schneider, Frick and Schneider, and by Heidrick Brothers, uses a separate engine to power the rotary tillage mechanism and the hydraulic lift pump. Planters and fertilizer drills are ground-driven, since both of these functions must be proportional to ground speed.



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FRED TADLOCK (lower right) is using the original model of planting combine which is now going into production.

The Johnson machine is adapted to all row crops. It is therefore suited to listing, bed shaping, preplant fertilizing, rotary tilling and planting of any row crop. The prototype machine, pictured below, was purchased by Spreckels grower Carl Becker of Davis.

RANCHER'S ENEMY NUMBER ONE— "DOWN TIME"

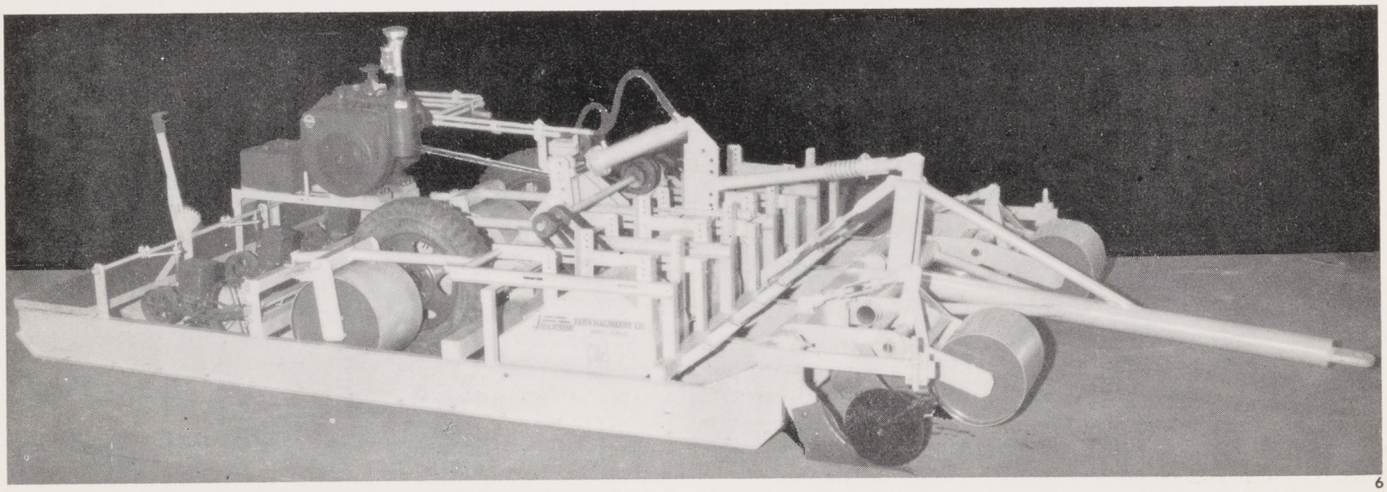
By RANDOLPH SPAULDING

FARMERS HAVE LEARNED that, without a doubt, the most worthless thing on a ranch is a piece of broken-down farm equipment. It earns nothing, has to pay taxes, takes up valuable space and is a mental hazard. There was a time when a lot of farmers housed their equipment "as is" as soon as harvest was finished. It stayed housed and forgotten until about time for Spring operations. Then there developed suddenly an epidemic of hurried-up fixing and repairing. Shops ran full crews, full time, over time and sometimes twenty-four hours around the clock. Some of the machinery did not get into the race with the starting gun.

Happily now, however, this is the exception rather than the rule. At every opportunity machinery is worked over so that it will be in good condition before seasonal uses begin. The present day farmer possesses a continuing awareness of the need to have equipment ready for the job when the job is ready. He knows his year's profits are packed away in the steady performance of his tractors, plows, discs, harrows, planters and harvesting machinery. He does not wait for a rainy day to make the repairs necessary to keep his machinery in the earner class. He checks it constantly and if it needs any fixing the fixing is done now. DOWN TIME has become his "RANCH ENEMY NUMBER ONE" and the farmer is doing something about it.

FARM SHOPS

One of the moves to whip DOWN TIME is the farm shop. Here welding jobs, drill press work, pipe fitting, tool grinding and comparable jobs give first aid to crippled farm machinery. There are farm equipment jobs in construction, repair and maintenance that require more specialized skill as well as shop equipment, that the average farmer-shop does not provide. These jobs go to the more completely equipped shops of the machinery dealers. However, the farm



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THE PROTOTYPE of the Johnson Planting Combine, licensed by Fred Tadlock and based upon his developments which began in 1950.

shop routine is resulting in a better informed farmer. He knows what his machinery looks like inside. He has been in it, had its parts laid out before him and in most cases gets it back together so it works. With the help of dealer's charts, scales, tables and counsel, the equipment owner is made alert and quick to detect trouble before "ENEMY NUMBER ONE" makes his ugly presence known.

PROTECTS INVESTMENT

According to U.C. Extension Circular 443 "many farmers find it advantageous to do a considerable part of their repair and maintenance work that does not require specialization. In so doing they are able to protect their investments in expensive buildings and equipment and cut the rate of depreciation (estimated to be 3 to 10 percent annually)". Circular 443 further opines "They are also able to modify new equipment to fit their specific needs—an important factor on California farms. Too large or too elaborate a shop can be a liability—It is often wiser to 'farm out' major jobs of repair or busy-season jobs."

DEALERS' SERVICE

One beet grower reports; "Yes, we do a lot of our repair work right here on the ranch, but we are always conscious of the need for dealer's service. They have the heavy machinery for cutting and rolling sheet steel, forge jobs and lathe work. Their men are experienced and trained for doing accurately and quickly, jobs we cannot do on the ranch". The farm machinery dealer recognizes the value accruing to his business by keeping equipment in top operating shape. Also, he will not let the farmer forget that a "check-up now saves a big check later". For months the farmer's machinery has served him faithfully, easing his work and adding to his profit. Comes a time when a thorough check-over is due in order that this same smooth performance may continue. Perhaps there are parts to be replaced and made to fit properly. Dealers now provide, for a nominal sum, a special check by experts known as "PREVENTIVE MAINTENANCE". Trained service men go over the machinery on the ranch for the purpose of preventing breakdowns. Clutches, brakes, gears, pins and plugs, controls, sprockets, pinions, spark plugs, carburetors, rollers, tracks, filters and hose are some of the items checked on track type tractors under this plan. DOWN TIME becomes a rarity where this service has been applied.

PARTS IMPORTANT

Needs for engine parts and replacements during the busy seasons are immediate. RANCH ENEMY NUMBER ONE threatens. Does the Farm Shop have the needed unit? Can it be made on the ranch? Does the dealer have it? These needs are being met through dealer and farmer cooperation. An instance in point occurred in the Sacramento Valley during beet harvest last Fall. At 7:30 A.M. the dealer received a phone call for a harvester. Crew was standing by and DOWN TIME threatened. The farmer had to work fast. The dealer had the needed part but the part was needed 30 miles away. Answer: farmer flew his own plane from ranch to airport. Dealer drove to airport and delivered part to plane as he landed. Harvest equipment up and moving on job at 8:30 A.M. same morning. Dealers and farmers both realize the importance of having on hand the necessary parts to keep RANCH ENEMY NO. 1 in a non-existant state.



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THE FARM WORK-SHOP is the basic machinery maintenance unit. However, good management must judge when a job can better be handled by an implement dealer equipped with special shop facilities.

BEHIND THE SCENES

Today there is a stirring, rumbling, moving something going on behind the scenes of agricultural production. As the rains come, the great tillage and harvesting monsters disappear from the fields where they were so prominent to highway travellers for past weeks on end. To the passerby, agriculture is in hibernation. However, a peek into farm shops and dealer's service shops would convince him that such is not the case. Mechanics, blacksmiths, welders, painters and others making up an army of workers are putting these same tillage and harvest monsters in readiness for the year of great promise.

And what are those signboards being finished off in such large letters and vivid colors? One of them will replace the old black board on the side of the equipment shed. The message will read: "REPAIR MACHINERY NOW!"



FARM FAMILIES NOW COVERED BY SOCIAL SECURITY

By JOHN J. CASSIDY
District Manager, Federal Security Agency, San Jose, California

HAVE YOU ever known a farmer who was killed in a tractor accident? Of one who was killed or maimed falling off a barn roof? Of serious injury resulting in death as a result of an explosion at the gas pump? Or of a farmer who is suffering from rheumatism in his advanced age? If you have, you will be interested in this.

Farmers now have the protection of Social Security coverage. Included in new legislation recently passed by Congress was the coverage of farmers effective in 1955. Previously, self-employed farmers were among the few groups of business people who were excluded from coverage. Now farmers will have the same retirement and survivorship protection as nine out of ten other working people presently enjoy.

The extension of Social Security protection to farmers is only logical. The payment of over $12,000,000,000 in retirement and survivorship benefits to more than nine million people since monthly benefits began to be paid in 1940, has firmly established Social Security payments as one of the major sources of income when earnings are cut off due to old-age or death. In this very month, six and a half-million people are receiving over $300,000,000 in Social Security benefits.

The monthly payments which are made under this system range from $30 to $108.50 for a retired worker at 65, and his wife is entitled to an additional one-half of this amount when she attains 65. Payments to a widow with one child under age 18 range from $45.00 to $162.80 and for a widow with two children under 18, monthly payments are $50 to $200. The widow in these instances is entitled to monthly payments because she has the children in her care. Payments are made to her not because she is incapable of supporting herself, but as a further assistance to the children in the form of an inducement to have her remain home to raise the children and thus maintain the close family tie, rather than to go out to work in order to supplement the Social Security payments which otherwise would be made to the children alone. When a child reaches 18, he is no longer entitled to benefits, and when the youngest child attains 18, the mother is also no longer entitled because the purpose for which she was receiving payments has been served. However, since a widow is entitled to monthly payments at 65, she will again be entitled to benefits on her husband's account when she reaches age 65, provided she does not remarry. In addition to the survivor's monthly benefits just described, there is also a lump-sum death payment provided to partially offset the cost of burial. which is made to the surviving spouse. It is not necessary that a widow be 65 or have a child in her care in order to receive the lump-sum. In the event that no spouse should survive, the lump-sum is paid to the person or persons who submit proof of having paid the worker's burial expenses.

Since the Social Security law is intended to provide retirement and survivor's insurance, a question naturally comes to mind about the many farmers who do not retire after they reach 65. Are they paying for something they will never receive? True, survivor's payments may eventually be paid to the survivors of a farmer even if he never drew any benefits for himself, but even these may not be paid if a person has no dependents to qualify for survivor's payments—for example, the bachelor farmer, or the widower—and the only payment possible may be the lump-sum death payment to the person who paid the burial expenses. No. those farmers who prefer not to retire are not paying money down a rat-hole. Congress recognized that there are many people who prefer to continue to remain active in their work, and that the requirement that a person be retired before being eligible to draw benefits would be to the disadvantage of those who worked up to their last moment on earth. Therefore, in order to insure a return on the amounts paid for Social Security protection. Congress changed the law to permit payment of full retirement benefits upon the worker's reaching age 72, even though he is still working full time and has given no thought to retirement. Thus, every farmer may plan to have additional income consisting of Social Security payments after he is 72 years old, regardless of his retirement status.

The tax payable by the farmer, expressed as percent of earnings, is:

SELF-EMPLOYED TAX RATE

Years	Tax Rate Per Cent
1954 - 1959	3 %
1960 - 1964	3¾ %
1965 - 1969	4½ %
1970 - 1974	5¼ %
1975 - and after	6 %

All benefits are related to the average monthly earnings credited to the worker's Social Security account. For farmers the average will be determined by using all income credited between January 1, 1955, and the year in which the farmer reaches 65, or files his claim for benefits, or dies.

The following table illustrates some examples of the size of retirement and survivorship benefits.

Average Monthly Earnings	MONTHLY PAYMENTS TO: Retired Worker	65 Yr. Old Wife of Ret. Worker	Retired Worker & Wife	Widow Over 65	Widow & Child Under 18	Widow & 2 Children Under 18
$ 50	$ 30.00	$15.00	$ 45.00	$30.00	$ 45.00	$ 50.20
100	55.00	27.50	82.50	41.30	82.60	82.60
150	68.50	34.30	102.80	51.40	102.80	120.00
200	78.50	39.30	117.80	58.90	117.80	157.10
250	88.50	44.30	132.80	66.40	132.80	177.20
300	98.50	49.30	147.80	73.90	147.80	197.10
350	108.50	54.30	162.80	81.40	162.80	200.00

This summarizes the new Social Security provisions with respect to farmers. If questions should come to mind which have not been answered here, or if you should desire more information on certain points, you should contact your nearest Social Security office where the employees are always glad to help you.



THE SUCROCHEMICAL OUTLOOK

By H. B. HASS*

President, Sugar Research Foundation, Inc.

SUGAR RESEARCH FOUNDATION exists for the purpose of learning more about the science of sugar and its by-products so as to increase the usefulness of sugar to the world. The effect of this should be to increase sales of sugar over what they would be if the Foundation had never existed.

With that brief introduction, let's look at our current projects:

One of the categories of research is the role of sugar in the plant organism, when the sugar is sprayed on the leaves as a ten per cent solution in water. Two effects have been observed. The first is a detoxification of other materials which are applied to the leaves at the same time. Urea, for example, is a valuable source of nitrogen to the plant when it is fed through the leaves, but frequently the leaves treated with urea turn brown and die. This reaction can be prevented if sugar is used with the urea.

The second aspect of leaf-feeding of sugar to plants is being studied by Dr. F. W. Went of the California Institute of Technology at Pasadena. Under conditions of low light intensity and short days, characteristic of a northern greenhouse in winter, photosynthesis is retarded. This can be corrected either by use of artificial light, or by feeding sugar to the plant. Sugar is far less expensive. Yet not all plants benefit in equal degree. Roses and carnations seem not to absorb much sugar. On the other hand, lettuce, tomatoes, peas, lemon trees, and coffee plants react favorably. Preliminary tests indicate that lemon trees are protected from frost damage by the sugar. Here we must resist the temptation to speculate until more information is gained. It is easy to see, however, that we must keep the studies in progress until we know whether or not a large new use for sugar is opening up.

Our research also deals with the study of the technology of the industries which use larger amounts of sugar. What is the function of sugar in these industries? How does it compare with competitive products such as corn syrup, dextrose, Sucaryl and saccharin? Are there advantages in the use of sugar which should be pointed out to the industries concerned?

One of these projects is directed by Dr. Emil Mrak of the University of California at Davis. Traditionally, fruit packs of finest quality have been associated with syrups of rather high density, and some canners have been led to the belief that the packs are too sweet for general acceptance. At present we are using a taste panel to try to discover the preferred level of sweetness in canned peaches. The results should have a distinct interest for commercial fruit packers.

In somewhat the same field, we are looking into the use of corn syrup solids in fresh fruit which is frozen for later incorporation in jams and marmalades. We have instituted a project with Professor H. W. Schultz of Oregon State College to determine how products so prepared compare with those in which sugar is used. It is expected that browning reactions, which cause deterioration in color and flavor in shelf-aged jams and marmalades, would be more pronounced with products containing corn syrup.

Dr. A. A. Albanese of St. Luke's Convalescent Hospital at Greenwich, Connecticut, has produced strong evidence for a protein-sustaining action of fructose and, hence, of sugar, which forms fructose during digestion. This effect is not shown by dextrose or by the carbohydrates which form only dextrose on digestion, that is, starch, dextrin, and maltose. This is a discovery of first importance because protein costs three to thirty times as much as sugar does, and in the total problem of feeding the world protein is the limiting factor. Nutritionists and doctors of medicine have been so accustomed to thinking of protein and carbohydrate as separate nutritional entities that it will take years to re-educate them on this subject. Meanwhile we hope to learn more about this phenomenon from a biochemical standpoint, which will make the discovery more readily accepted.

We are all familiar with the work of Dr. F. J. Stare and Dr. Jean Mayer at Harvard on the blood sugar level story. Current research is concerned with a comparison of the value of diets containing sugar with those containing the coal-tar sweeteners, saccharin and Sucaryl, for persons who wish to lose weight. We hope that this will show that sugar is a more valuable ingredient in reducing diets than its non-caloric competitors. We should have the answer a year from now.

Professor D. V. Catron's work at Iowa State College on pig starter rations has been a most successful research project and has already resulted in new markets for sugar. Tests last year indicated that pigs less than one week old do not have in sufficient amount the enzyme which splits sugar into glucose and fructose. It is a practical certainty, however, that invert sugar can be used satisfactorily in the ration. It will be interesting to learn if the protein-sustaining action of frutose discovered by Dr. Albanese in humans carries over to pigs.

The remaining projects come under the heading of "sucrochemistry." This is a word which I coined sometime ago to cover the branch of the chemical industry which is based upon sugar and its by-products. Its meaning is obvious to a chemist familiar with petrochemicals derived from petroleum. There is overwhelming evidence that we are witnessing the birth of a great sucrochemical industry. Recently announced was a $10,000,000 plant to make glycerol out of sorbitol, and the bagasse-paper plants are going up in many different areas. Pointing in the same direction is the production of furfural, cane wax, monosodium glutamate, aconitate, and synthetic resins.

*Excerpts from an address to the annual meeting of the United States Beet Sugar Association, at Mackinac Island, Michigan, August 17, 1954. Reprinted from the Sugar Molecule.

SPRECKELS' SACRAMENTO OFFICE STAFF RELOCATED



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McCurry Photo

THE CALIFORNIA FRUIT BUILDING has been the Sacramento home of Spreckels Sugar Company for 30 years.

SINCE 1925, the California Fruit Building, 4th and Jay Streets, Sacramento, has been the home of Spreckels Sugar Company's agricultural offices serving the Sacramento and San Joaquin Valleys.

Growth of the Company's agricultural activities in both valleys has made it necessary to reorganize the Agricultural Department's functions, as reported in the November - December, 1954 issue of SPRECKELS SUGAR BULLETIN.

The Woodland and Manteca factory office buildings have been enlarged to make room for grower service personnel moving from Sacramento.

The San Francisco offices at 2 Pine Street will accomodate the administrative and accounting personnel.

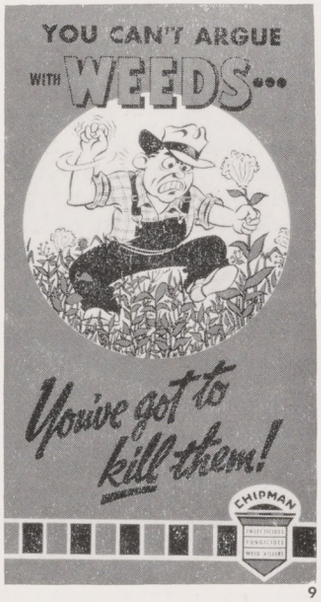
The editorial office of SPRECKELS SUGAR BEET BULLETIN will be at the Woodland Factory office.

WEED HANDBOOK AVAILABLE

CHIPMAN CHEMICAL COMPANY, INC. has recently published a thirty-four page booklet entitled, "You Can't Argue With Weeds", which describes agricultural weeds and control methods.

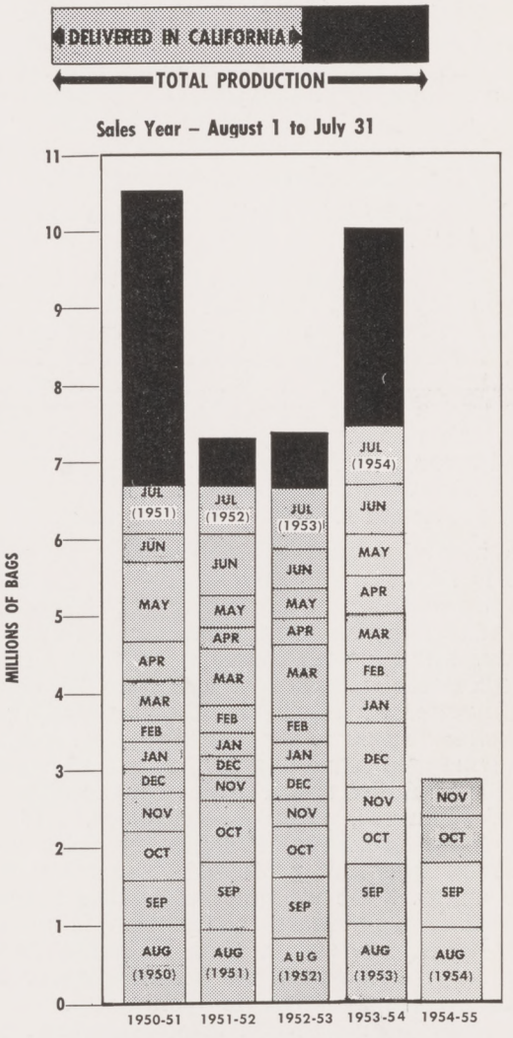
The contents divide into three principal sections; types of weed killers, proper dosages and calibration of spray equipment, and a thoroughly illustrated botanical description of all the principal weeds.

The booklet may be obtained at no charge from Chipman Chemical Company, Inc., Palo Alto, California.

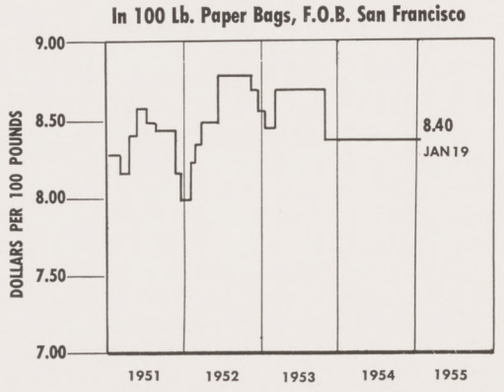


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PRODUCTION AND DELIVERIES OF BEET SUGAR IN CALIFORNIA



QUOTED PRICE OF BEET GRANULATED SUGAR



The SPRECKELS SUGAR BEET BULLETIN is issued bi-monthly by the Agricultural Department of the Spreckels Sugar Company as a service to its growers.
Mention of specific methods, devices and implements does not constitute an endorsement by the Company.
All photographs by the editor unless otherwise indicated.
AUSTIN ARMER, Editor Spreckels Sugar Company Woodland, California

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Apr 27 '55

SPRECKELS SUGAR BEET BULLETIN



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VIRUS RESEARCH

is one of the priceless services to sugar beet growers provided by USDA's Sugar Crop Section.

CURLY TOP
VIRUS YELLOWS
BEET MOSAIC

are important virus diseases of beets under study by this organization. **See page 10.**

Vol. 19 MARCH-APRIL, 1955 No. 2

PUBLISHED FOR CALIFORNIA SUGAR BEET GROWERS BY THE SPRECKELS SUGAR COMPANY



SUGAR-BEET YELLOWS IN CALIFORNIA

By C. W. BENNETT*

MOST CROP PLANTS are subject to attack by one or more virus diseases. In many instances these diseases are even more destructive than those caused by fungi and bacteria. The importance of virus diseases has increased greatly in recent years. The increase in the damage caused by this group of diseases is associated with the extension of the growing of many crop plants into areas where they have never been grown before. In the new areas the crop plants are attacked by viruses that have previously had a limited distribution and may have been restricted to local plants. Since viruses are carried in most of the living tissue of infected plants, and are spread by various kinds of insects, often they are disseminated widely in a short time after they have spread from their wild hosts to cultivated plants.

Sugar beets, more than most crop plants, have been subject to injury by a number of destructive virus diseases. In the early part of the 20th century, curly top, disseminated by the beet leafhopper or "whitefly" *(Circulifer tenellus)*, threatened destruction of the sugar-beet industry in much of Western United States. Losses from this disease have been greatly reduced by the development and use of resistant varieties.

Yellow wilt, another virus disease, caused the abandonment of a sugar-beet industry in the Rio Negro Valley of Argentina about 1940. Apparently, the virus that causes this disease came from native plants in that area. Yellow wilt was a more destructive disease in Argentina than curly top had been in Western United States before curly-top-resistant varieties came into general use. Yellow wilt has not yet spread to the United States but the possibility of its introduction into this country constitutes an ever-present threat to our sugar-beet industry.

Another virus disease, known as "Virus Yellows" or "Sugar-beet Yellows," has been present in European beet-growing areas for many years and has caused heavy losses in England, The Netherlands, and elsewhere in Europe, in seasons favorable for spread. This disease was discovered in the United States in 1951.

Sugar-beet yellows is now known to be present in most of the principal sugar-beet-producing areas of the United States. It is more prevalent, however, in those areas where suger beets, or other susceptible plants, can be found growing throughout the year. It is abundant in the Salinas Valley of California.

Aphids that spread the disease are present, in greater or lesser numbers, throughout the year in most cultivated areas of California. They build up to high populations in the early spring. These aphids produce winged forms in great numbers. The winged insects, many carrying the yellows virus, fly and drift in winds from infected beet plants to beet fields where they introduce the yellows virus into new plantings. Spring migrations of aphids are large enough to cause infection in nearly all plants in many early-planted fields and also often produce widespread infection in fields planted later in the season. As a result, many beet fields begin to show uniform yellowing in early May. By June, most of the fields in some areas may show extensive yellowing. The yellow plants have leaves that are leathery and brittle and older leaves die prematurely. The yellowing persists throughout the remainder of the season. In late summer or fall, however, there may be a certain amount of actual or apparent recovery due to dying and dropping of many of the older leaves and to the production of new leaves that show less yellowing.

Yellows also attacks table beets, spinach, and several weeds such as Sowbane *(Chenopodium murale)*, lambsquarters *(C. album)* and pigweed *(Amaranthus retroflexus)*. The weeds are very resistant and probably are not important in the perpetuation of the disease.



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WEEDS—many of them foreign to the United States—become "guinea pigs" as hosts in aiding virus studies.

Yellows is spread from plant to plant by several species of aphids. Probably the most important agent of spread of the disease is the green peach aphid *(Myzus persicae)*. Yellows is spread also by the black bean aphid *(Aphis rumicis)* the potato aphid *(Macrosiphum solanifolii)*, and certain other species of aphids believed to be of minor importance.

The green peach aphid is a very efficient carrier of the yellows virus. This insect can pick up virus by feeding on a diseased plant as short a time as 10 minutes. Aphids from diseased plants can infect healthy plants by feeding on them as short a time as 5 minutes. Also, after virus is picked up, the aphid is able to retain it for a period of 24 to 72 hours without again feeding on a diseased plant. This long period of retention of the virus by the aphid enables the winged forms of the insect to carry the virus considerable distances. After an aphid moves from a diseased plant it is likely to infect any beet plant on which it feeds during the following two or three days.

Although yellows has caused severe injury to sugar beets in Europe for a number of years, it has not become generally recognized as a serious disease in the United States. Probably yellows is not so severe here as in Europe. The yellows virus exists as a complex of strains or forms that differ in the severity of their effects on infected plants. Results of tests of the virulence of yellows virus from different parts of the United States indicate that most

*Principal Plant Pathologist, Field Crops Research Branch, Agricultural Research Service, U. S. Department of Agriculture, Salinas, Calif.

of the virus present in this country is relatively mild. Severe forms of the virus occur in the Salinas Valley, but even here, the weaker strains seem to be the more prevalent.

Reliable estimates of the amount of damage actually produced by yellows are not available for any area where the disease occurs.

Losses, no doubt, vary with the strain of virus involved and with the age of the plant at the time of infection. The best evidence, with respect to losses that the disease may produce, was obtained from replicated field plot tests conducted in the Salinas Valley in 1952 by J. S. McFarlane, and from similar tests at Riverside, California, in 1953 and 1954, conducted by Charles Price.

In the tests made in the Salinas Valley in 1952, plots were laid out in two beet fields. Half of the plots were treated with insecticides at frequent intervals in an effort to control aphids and reduce natural infection. The remaining plots were exposed to infestation by incoming aphids.

Yield and sugar content were determined on the basis of representative samples of healthy and diseased beets at harvest. Yellows caused a depression in sugar percent in both tests. The yield of beets was not reduced markedly in one test; in the other, there was a decrease of more than 12 tons per acre and a reduction of 39.7 percent in total sugar per acre.

In the tests at Riverside, plots of beets were inoculated with a strain of the yellows virus known to be able to cause severe injury. Yields were compared with plots that were not inoculated. The plants were inoculated when they were in about the 6-leaf stage. In these tests it was possible to compare plots in which nearly all of the plants were diseased, with plots in which very few plants were diseased.

In the tests in 1953, yellows caused a reduction of 35.8 percent in sugar per acre. The reduction in the 1954 test was still greater and amounted to 45.3 percent. The results of these four tests are shown in Table 1.

It should be emphasized that the tests at Riverside were made with the most virulent strain of the yellows virus available for use, and that the plants were infected when they were small. The results, therefore, probably indicate the maximum injury the disease is capable of producing under favorable conditions, rather than the injury that may normally be expected under average field conditions. It is not known how much injury may be produced by the milder strains of the virus. Tests to compare injury by mild and severe strains of the virus will be made in 1955.



USDA Photo 13

IN THESE PLOTS at Riverside, a particularly virulent strain of the yellows virus was used to inoculate the left-hand plot. Yield was reduced by over 40% (sugar per acre), but such severe infection would not be likely to occur naturally.

It seems very evident from the results of tests already made that sugar-beet yellows is able to produce severe losses if virulent strains of the virus are present. It may be that losses due to infection by the less virulent strains are greater than have been recognized.

Success in the control of sugar-beet yellows, in the immediate future at least, will depend largely on local conditions and practices. The disease can be serious only in those areas where sources of infection are available throughout the year.

Unfortunately, beets of one type or another are growing in large numbers throughout the year in much of the sugar-beet-producing area of California. Under such conditions no satisfactory measures for control of the disease have been found. Spraying or dusting for control of the aphids which spread the disease may delay or reduce infection under some conditions, but there is no good evidence that treatments of this type will be profitable.

None of the sugar-beet varieties grown at the present time has sufficient resistance to justify its use on the basis of resistance alone. In time it may be possible to develop varieties with a higher degree of resistance than that possessed by varieties now being used. Breeding programs pointing toward this end are under way both in Europe and the United States.

Table 1. Effect of virus yellows on yield and sucrose content of sugar beets in replicated tests.

Year of Test	Location of Test	Average Yield of Beets Tons per Acre		Average Percent Sucrose		Average Gross Sucrose Tons per Acre		Reduction in Sucrose per Acre Caused by Yellows—Percent
		Healthy	Yellows—Infected	Healthy	Yellows—Infected	Healthy	Yellows—Infected	
1952	Salinas	20.800	20.400	17.64	16.57	3.669	3.380	7.8
1952	Salinas	34.425	22.275	16.44	15.33	5.659	3.415	39.7
1953	Riverside	28.815	18.738	15.31	15.23	4.433	2.845	35.8
1954	Riverside	38.789	24.360	12.02	10.46	4.671	2.557	45.3

TRENDS AND ACCOMPLISHMENTS IN MACHINE THINNING

By D. RIRIE, M. D. MORSE and F. J. HILLS*

RESEARCH STUDIES of this important problem were renewed at Davis in 1952 and have continued each season until the present time. Through machine thinning tests and population studies it was hoped that machine thinning might be advanced in the state. It was the purpose of the population tests to find basic information on the effects of doubles and multiples on yield and sucrose content and to establish the upper and lower limits of stands that could be tolerated without lowering yields. The machine thinner experiments were designed to obtain more experience with the machines, to use for demonstration plots, and to critically evaluate the effects of machine thinning on yield as compared to hand thinning.

The following ideas have evolved from the population experiments:

(1) Beets spaced singly showed little yield variation over a range of 6-12 inches between singly spaced beets.

(2) Doubles introduced into stands of evenly spaced beets at 6 or 12 inch in-the-row spacings did not result in yield reductions.

(3) Beets spaced rather evenly at 12 inch centers exhibited no difference in yield where spaced singly, at 25% doubles and 12.5% multiples, or 50% doubles and 25% multiples.

(4) At an 8 inch spacing the yield was slightly lower when 25% doubles and 12.5% multiples were introduced. Fifty per cent doubles and 25% multiples lowered the yield considerably.

(5) At a spacing of 4 inches between beet hills, the introduction of doubles and multiples resulted in a substantial lowering of the yield.

*Assistant Agronomist, Farm Advisor, and Extension Specialist, University of California, respectively.



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HOEING, to control weeds and remove excess clumps of beets should follow machine thinning at the regular time for the normal first hoeing, if maximum yields are to be realized.

In these tests yield reductions in a number of cases were in excess of the saving in labor costs when machine thinners were compared to short-handled hoe thinned plots. In practically all cases, the use of long-handled hoes to trim the machine thinned plots was beneficial. Work will be continued to try to improve upon the techniques involved. Counts of multiples and of gaps in the Davis and San Benito experiments of 1954, and subsequent statistical analysis indicated that gaps and multiples depressed yields, with gaps exerting the more serious effect.

It should be pointed out that although yield reductions occurred, good yields were obtained where the mechanical thinners were used. The individual farmer should weigh his labor supply and labor costs against some expected yield reduction. By doing this some farmers will probably come to the conclusion that the advantages of the machine warrant its use, whereas others will find it advantageous to thin by hand.

The following table summarizes the machine-thinned plots conducted to date by the University and the Extension Service in cooperation with the industry.

Harvest Results — Sugar Beet Mechanical Thinning Trials — 1952 - 53 - 54 - Tons of Clean Beets Per Acre

Thinning	Butte Co. ① 1952	Butte Co. ① 1953	King City 1953	Davis 1953	Butte Co. ① 1954	Butte Co. ① 1954	Davis 1954	San Benito Co. ② 1954	Woodland ③ 1954
Short Hoes	15.5	17.8	32.0	34.0	18.5	16.8	25.3	29.3	23.5
Long Hoes				31.0			24.7		
Machine ④	14.7	16.5	28.6	27.5	17.8	15.3	22.5	22.8	19.2
Machine + Long Hoes	15.0	16.9		30.9	17.8	15.9	24.2		21.9
Lost Yield (machine vs. short hoes)	0.8	1.3	3.4	6.5	0.7	1.5	2.8	6.5	4.3
Net Gain or Loss Per Acre Due to Machine Plus Long Hoe	+ $0.50	—$4.30		—$30.70	—$1.90	—$4.30	—$6.70		—$12.70
Net Gain or Loss Per Acre Due to Machine Thinning Alone	+ $2.40	—$3.60	—$28.80	—$25.20	+ $3.60	—$6.00	—$21.60	—$66.00	—$39.60

① Trial conducted in cooperation with the Holly Sugar Corporation.
② Trial conducted by R. McCallum and W. Collins, San Benito Co. Farm Advisors.
③ Trial conducted by the Spreckels Sugar Company.
④ Down-the-row type thinners.
⑤ Costs and values of beets used in the preparation of this table: Thinning cost—short hoes, $15.00/acre; machine, $3.00/acre; machine plus long hoe, $8.50; harvest and hauling costs—$2.00/ton. Value of beets—$14.00/ton.

MECHANICAL THINNING— A PRACTICAL INSURANCE POLICY

By LAUREN BURTCH
Agronomist, Spreckels Sugar Company

THE USE of mechanical stand reducers has become widespread throughout the beet growing regions of the United States, with the exception of California. Our acceptance of mechanical thinning has lagged very much (with the possible exception of the Oxnard area.)

There are several reasons why California companies and beet growers have been slow to accept mechanical thinning. The principal reasons are:

(1) We have had sufficient labor to take care of our thinning needs in reasonable time.
(2) Our hand thinning costs are normally low in comparison with those in the other states.
(3) Our yields have been reduced in the majority of cases where hand and mechanical thinning comparisons have been made.

An example of the present relative position of hand and mechanical thinning can be illustrated by results from a trial conducted on the Woodland factory ranch in 1954. Beets were planted on April 8 on beds with rows spaced at 14x26 inches. The test included comparisons of two planters, the Ventura precision planter and the Planet Junior, together with three types of thinning (1) Short handled hoe done on May 7. (2) Once over with the Silver using the 8 spoke head with 1½ inch knives on April 30 followed with a long handled hoe touch-up on May 14, and (3) The Silver twice over, using 1½" knives first on April 30 followed by the ½" knives on May 4. The test was replicated 8 times on sandy soil. The plot was side dressed on May 12 with 300 pounds per acre of nitroprills (100 pounds of nitrogen) and was irrigated 10 times between May 18 and October 1. The high frequency of irrigation was necessary because of the presence of root knot nematode. The plot was harvested on March 3 and averaged 21.5 tons per acre. (Table 1).

The table shows that under the conditions of the test there was no difference in planter performance,

Table I.
A COMPARISON OF HAND AND TWO DEGREES OF MECHANICAL THINNING AT WOODLAND, CALIFORNIA, 1954
Stand Data per 100 Feet of Row

Method or Thinning	Planter	Ave. No. *Gaps	Feet of Row Missing in Gaps	Total Harv. Beets	Tons of Beets Per A.
Short Hoe	Planet Jr.	5	12.6	112	23.3
	Ventura	5	12.6	106	23.7
	Mean	5	12.6	108	23.5
Silver once plus long hoe	Planet Jr.	7	19.3	107	22.6
	Ventura	8	23.6	105	21.2
	Mean	7	22.0	106	21.9
Silver twice over	Planet Jr.	7	20.8	109	19.2
	Ventura	7	27.6	107	18.8
	Mean	7	24.2	108	19.2
General Mean		6	19.6	108	21.5

*Gap is defined as more than 20" of row missing.

but there was considerable difference in yield as affected by thinning methods. The machine used once and followed with the long hoe resulted in a reduction of 1.6 tons per acre over the short hoe. Twice over with the machine resulted in a reduction of 4.5 tons per acre over the short handled hoe. The number of gaps over 20 inches in length were counted and measured just prior to harvest and the measurements show an average increase from 13 to 24 feet of row with mechanical thinning. In addition, the method of thinning could be selected at harvest by the increase in the number of small beets left by the mechanical thinner.

A comparison of profits and losses from hand and mechanical thinning shows that hand thinning in this test netted $12.70 per acre over the Silver once plus the long hoe and $39.60 per acre over the Silver twice without hand labor. Those figures are based on short hoe thinning at $15, long hoe touch-up at $7. Mechanical thinning each pass at $1.50, $2.00 a ton for harvest and hauling and a selling price with benefit payment of $14.00 a ton.

The results of this trial and those of others, including the University of California, while indicating no gain in dollars from mechanical thinning, are nonetheless encouraging, for they show that we can raise a good crop of beets with mechanical thinning right now. This gives us a good insurance policy for the future as well as time in which to develop better mechanical thinning equipment and know-how.

Experience gained thus far shows that we need to stress the following:

(1) Improvement in the design and mounting of thinning tools (tool bar mounting has already helped considerably).

(2) For best results mechanical thinning plans should be made at the time of seed bed preparation. A good seed bed is necessary and if the thinning equipment is used on beds, the beds need to be uniform in width and height.

(3) Soil condition is very important and it is necessary that the beet rows be flat and not depressed in the planter furrow (rolling before thinning helps considerably).

(4) A uniform stand down the row is very important, so good emergence is a necessity for the best mechanical thinning job.

(5) Precision planting and monogerm seed will undoubtedly help, but we seem to be more limited by the problems of getting a good stand than we are in the mechanics of seed placement.

In summary, California is at present in the fortunate position of having in reserve an acceptable tool for thinning, if and when it is needed. It is likely that time will soon close the dollar gap between hand and mechanical thinning through improvements in our ability to do a better job of mechanical thinning on one hand, and by labor shortages resulting in higher hand thinning costs on the other. The important fact remains, we can do an acceptable job of machine thinning now and we will do a better job as we gain experience.



FARM WORKERS NOW COVERED BY SOCIAL SECURITY

By JOHN J. CASSIDY
District Manager, Social Security Administration
San Jose, California

THE GREATEST number of newly covered workers under the 1954 amendments to the Social Security law is in the field of agriculture.

In 1950 after extended hearings by both the House Ways and Means Committee and the Senate Finance Committee, the Congress brought agricultural workers under the protection of Old-Age and Survivors Insurance under very restrictive conditions.

Under the 1954 amendments, however, these restrictive conditions were removed, and beginning in January 1955, farm workers who earn $100 or more in a calendar year from the same farm employer will have the opportunity to acquire quarters of coverage. If the worker earns between $100.00 and $199.99 a year, he is allowed one quarter of coverage; $200.00 to $299.99 a year, two quarters of coverage; $300.00 to $399.99 a year, three quarters of coverage; and $400.00 or more a year, four quarters of coverage. Only money wages are considered as "wages." The value of board and room, commonly referred to as "wages in kind," is not subject to the social security tax, and is not counted as "wages."

During the years 1951, 1952, 1953, and 1954 farm employers were required to make quarterly reports to the Director of Internal Revenue. These reports included the social security number, full name, and amount of taxable wages paid to each worker during the particular quarter. The farm employer also turned in the social security tax at the same time the quarterly report was filed.

Beginning with 1955, farm employers will file an annual report showing the social security number, full name, and taxable wages paid ($100 or more) during the year. The first such report will be made in January 1956 and will cover the year 1955. This report will be made on Form 943 which will be supplied by the Director of Internal Revenue on request.

The very first thing the farm worker should do is to apply for a social security account number if he does not already have one. Applications for these account numbers can be obtained at any post office or any Employment Service office in the United States. Farm Labor offices will also have a supply of the application blanks. In addition, all district offices and itinerant stations of the Social Security Administration will furnish the application form on request. Completed applications for social security account numbers should be sent to the nearest district office of the Social Security Administration.

Mexican agricultural workers entering the United States under the Agricultural Act of 1949 are exempt from social security taxes. Their wages should not be reported and they do not need social security numbers so long as they are employed in agricultural work in accordance with the Agricultural Act of 1949. In addition, British West Indies agricultural workers lawfully admitted to the United States on a temporary basis are also exempt from social security taxes when they are employed in agricultural work.

The answers to most questions, including the "employer-employee" question, will be found in Circular E, Employer's Tax Guide, (January 1955 Revision). This document was recently prepared and issued by the Internal Revenue Service. A copy may be obtained by addressing your request to the Director of Internal Revenue.

Another publication, titled Agricultural Employer's Social Security Tax Guide, Circular A, January 1955 Revision, has also been published by the Internal Revenue Service. This guide deals primarily with the matter of how and when the agricultural employer makes his tax returns and prepares the annual wage report.

When requesting a decision on any question, it should be remembered that the decision depends on **all the facts** in the case. A complete description is absolutely necessary if the answer is to be obtained promptly.

Since many of the questions which arise do not follow any set pattern, it is often impossible to give a general answer. Such questions as "Is a share-cropper arrangement that of an 'employer-employee' or is the share-cropper a self-employed person?" The answer to this question depends on the details of the agreement between the share-cropper and the person with whom he shares the crop. Since these arrangements may vary according to the locality or the crop involved, no set answer can be given until the details of the particular arrangement are known.

Regardless of who the employer may be, the law requires that proper records be kept. Circular A, Agricultural Employer's Social Security Tax Guide, referred to earlier in this article has complete instructions relating to proper record keeping.

BENEFIT PAYMENTS TO COVERED FARM WORKERS

The wages earned and reported for farm workers will go toward protecting them and their families for both Old-Age and Survivors Insurance. At the present time whenever a farm worker dies, leaving a widow and minor children, they usually become a complete burden upon the State and the County in which they live. Social Security benefits may not be paid to the survivors unless the deceased, at some time in the past, worked the minimum length of time required in covered work to have been "insured" under Social Security at the time of death. Under the Social Security law now in effect, farm workers and their families have the same protection as workers and the families of workers in business and industry. Benefits to the widow and minor children can range as high as $200 a month. The benefits are directly related to the wage level of the worker. The minimum payment to a widow and one child under age 18 is $45.00 a month. Farm workers who reach 65 and retire may receive monthly benefits. These benefits to the retired worker range from a minimum of $30.00 a month to a maximum of $98.50. The maximum will increase to as high as $108.50 a month beginning in July 1956 provided the worker has

earned $4200.00 in 1955 and at least $2100.00 in the first half of 1956, is aged 65 or past, and files his claim for benefits no later than December 31, 1956. For those workers who reach the age of 65 after 1956, they too may receive the maximum benefit of $108.50 if they have the maximum earnings credits of $4200.00 a year starting with 1955 and continuing through the year just before they reach the age of 65. Earnings of less than $4200.00 a year will result in the benefit payments being less than the maximum of $108.50.

Regardless of what amount the worker receives in the way of Old-Age benefits, he is still permitted to earn as much as $1200.00 a year without losing any of the monthly benefit payments.

The wife of a retired worker may receive Wife's Benefits beginning at age 65. Wife's Benefits are equal to half as much as her husband, the retired worker. If there are children under age 18, who are unmarried and living at home with the retired worker and his wife, they too may receive benefits. Where there are children who are eligible to receive benefits, the wife may also receive benefits even though she is not yet 65. The maximum family benefits, based on only one worker's social security account, may not exceed $200.00 a month or 80% of the worker's average monthly wage, whichever is the least.

It has been found that in urban areas of the United States approximately 17% of those people reaching age 65 apply for the State Public Assistance payments, commonly called the State "Old-Age Pension". In rural areas, however, the percentage of people 65 years and over who apply for the State Public Assistance payments mounts to 33%. Thus, the coverage of farm workers in the years ahead will reduce the number of people applying for State Public Assistance payments.

The wages of the farm worker, and the self-employment net earnings of the self-employed farmer, will be subject to the same social security tax as the workers in business and industry, and the self-employed people in business and industry. This means that the tax will be as follows:

Calendar Year	Employer (Percent)	Employee (Percent)	Self-Employed (Percent)
1955 thru 1959	2	2	3
1960 thru 1964	2 1/2	2 1/2	3 3/4
1965 thru 1969	3	3	4 1/2
1970 thru 1974	3 1/2	3 1/2	5 1/4
1975 and after	4	4	6

The payments a beneficiary receives at retirement age or thereafter depend entirely upon the amount of earnings credited to his account. The following chart illustrates the benefits payable to a retired worker based on various average earnings levels.

Average Monthly Earnings After 1950*	Retired Worker	Retired Worker & Wife (Both over 65)
$ 50	$ 30.00	$ 45.00
100	55.00	82.50
150	68.50	102.80
200	78.50	117.80
250	88.50	132.80
300	98.50	147.80
350	108.50	162.80

*After "drop-out" of up to 5 years of low earnings, or no earnings.

(Continued on Page 16)

AMMONIA APPLICATION WITH PLANTING COMBINES

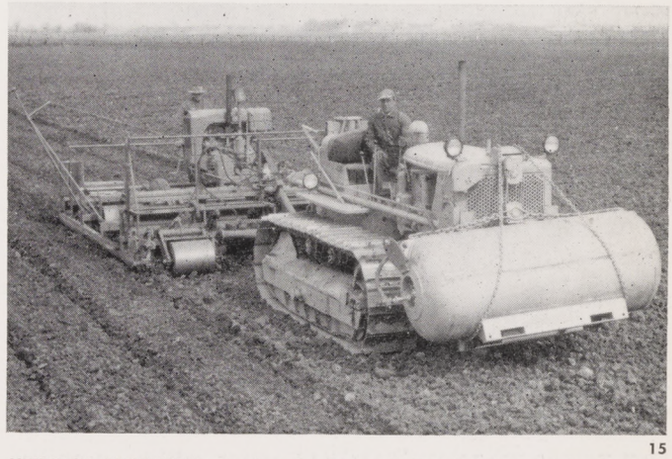
By AUSTIN ARMER, *Agricultural Engineer*
Spreckels Sugar Company

PLANTING COMBINES have been described in past issues of SUGAR BEET BULLETIN (Vol. 18, No. 3, May-June, 1954 and Vol. 19, No. 1, Jan.-Feb. 1955).

The machines as described were built with fertilizer applicators using solid commercial fertilizers. But for the 1955 planting season, Heidrick Brothers of Woodland and Carl Becker of Davis have rebuilt their machines for use with ammonia.

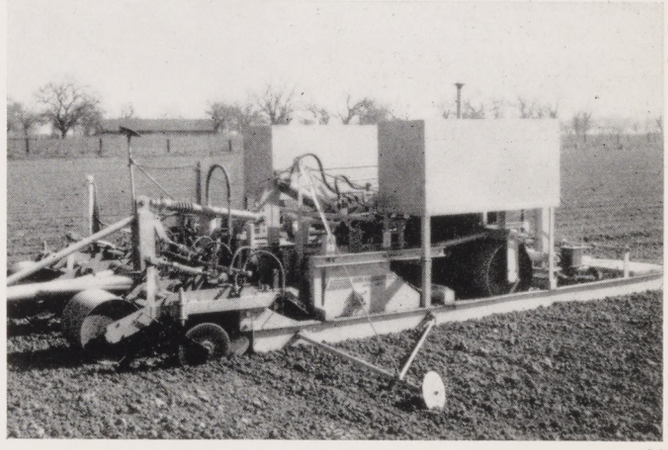
The Heidrick machine uses anhydrous ammonia, supplied by a big cylinder loaded on the front of a D8 Caterpillar by means of the dozer cable hoist. The cylinders hold 1730 pounds of ammonia gas, and with an application rate of 123 pounds of gas (100 units of N) per acre, one cylinder suffices for

(Continued on Page 16)



15

HEIDRICK BROTHERS' planting combine applies fertilizer in the form of anhydrous ammonia, supplied from the big cylinder carried on the tractor.



16

CARL BECKER'S planting combine applies liquid ammonia, supplied from tanks carried on the planter itself. (John Taylor photo).

SOCIAL SECURITY

(Continued from Page 15)

Survivors are entitled to payments based upon the average monthly earnings of the deceased worker, as shown by his social security account. The following table shows examples of monthly payments which are made on the basis of various average earnings levels. These illustrations are intended only as examples. The actual payment in any case is computed on the basis of the actual earnings credits of the deceased person as shown by his social security account.

Average Monthly Earnings, after 1950*	Only One Child Under 18	Two Children Under 18	Widow & One Child Under 18	Widow & Two Children Under 18
$ 50	$30.00	$ 37.60	$45.00	$ 50.20
100	41.30	68.80	82.60	82.60(x)
150	51.40	85.80	102.80	120.00
200	58.90	98.20	117.80	157.10
250	66.40	110.80	132.80	177.20
300	73.90	123.20	147.80	197.10
350	81.40	135.80	162.80	200.00

*After "drop-out" of 5 years of lowest earnings or no earnings.
(x)Family maximum for this average earnings level is reached.

At all times the farmer, or the farm worker, should feel free to contact the Social Security Administration for information on any phase of the Social Security law. And this is as good a time as any to suggest that farmers who hire farm labor and who have not previously made quarterly reports to the Director of Internal Revenue, should apply for an agricultural employer's identification number. Applications for this number should be made on Form SS-4A. These application forms may be obtained from any office of the Social Security Administration. Your Postmaster will advise you of the nearest social security office.

AMMONIA

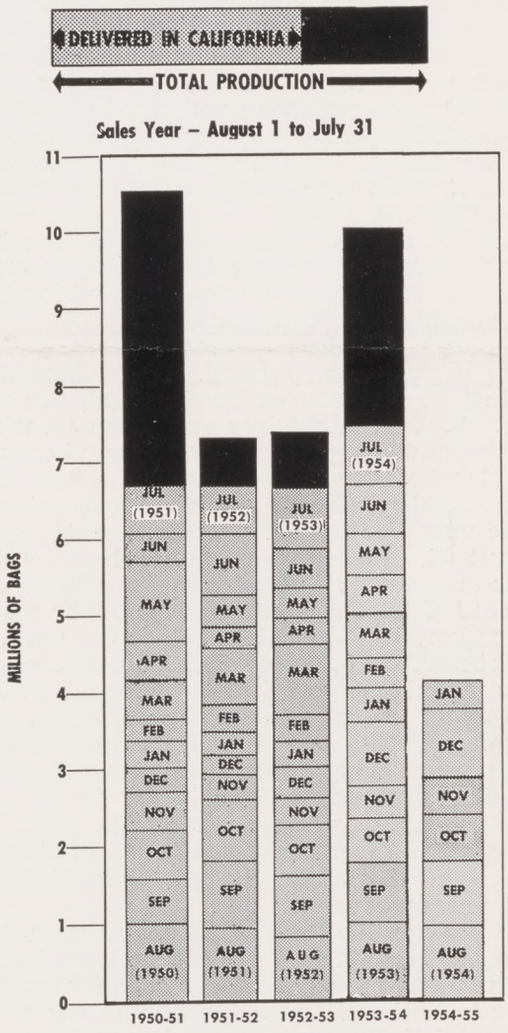
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14 acres. The Shell anhydrous ammonia was furnished by Orchard Supply Company of Sacramento.

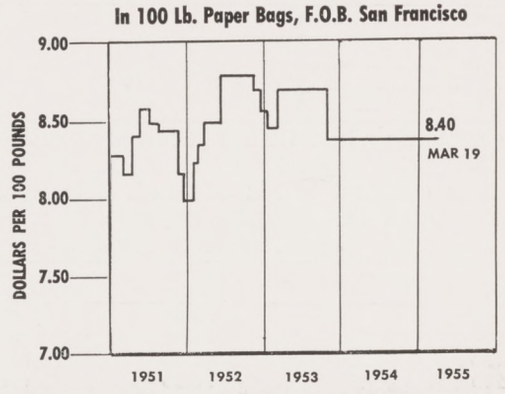
Carl Becker had his combine equipped with liquid tanks by its builder, Johnson Farm Machinery Company of Davis. These tanks hold 375 gallons, enough for 5½ acres when applying 100 units of N per acre. Aqua ammonia was supplied by John Taylor Fertilizers of Sacramento.

There are a dozen or more planting combines in use at present in California's beet growing areas. This number will undoubtedly increase. Gas and liquid fertilizers will accordingly find their way to more planting combines, and it will be interesting to follow the development pioneered by Heidrick Brothers and Carl Becker.

PRODUCTION AND DELIVERIES OF BEET SUGAR IN CALIFORNIA



QUOTED PRICE OF BEET GRANULATED SUGAR



The SPRECKELS SUGAR BEET BULLETIN is issued bi-monthly by the Agricultural Department of the Spreckels Sugar Company as a service to its growers.
Mention of specific methods, devices and implements does not constitute an endorsement by the Company.
All photographs by the editor unless otherwise indicated.
AUSTIN ARMER, Editor SPRECKELS SUGAR COMPANY WOODLAND, CALIFORNIA

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SPRECKELS SUGAR BEET BULLETIN



18

WATER WHERE IT'S WANTED

That is what the residents of the Salinas Valley have achieved by the Nacimiento project.

WATER CONSERVATION
FLOOD CONTROL
RECREATION

Are the rewards to a community which faced a serious water problem.

Vol. 19 MAY-JUNE, 1955 No. 3
PUBLISHED FOR CALIFORNIA SUGAR BEET GROWERS BY THE SPRECKELS SUGAR COMPANY



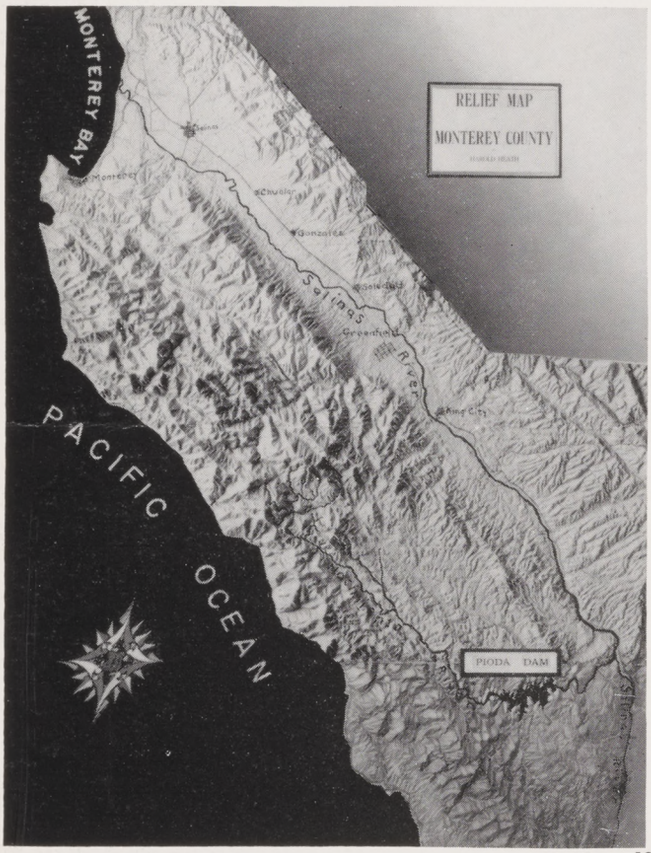
SOLVING A WATER PROBLEM

By AUSTIN ARMER
Agricultural Engineer, Spreckels Sugar Company

CALIFORNIA'S water shortage is not news—it is a tradition. True, there is much discussion of the water problem at this time, since it has become critical in some areas. But historically, California has always had a water problem because its water crop has never occurred where the water was needed.

One section of California has faced the problem squarely and taken steps to solve it. The Salinas Valley, with its $105 million annual income from 142,000 irrigated acres has too big a stake to take any chances with water supplies. So when the engineers of the Monterey County Flood Control and Water Conservation District demonstrated an annual overdraft of 50,000 acre feet, the community took action.

Arnold Frew, President of California Beet Grower's Association, is also chairman of Monterey County Flood Control and Water Conservation Advisory Committee. Frew was advised by the District Engineers that a $7 million dollar dam on the Salinas River's main tributary, the Nacimiento River, would stop the overdraft by storing for beneficial use at least 100,000 acre feet of flood water lost to the ocean each year. The dam could be built if the taxpayers of Salinas Valley would cast a 2/3 majority vote favoring a $7 million dollar bond issue.



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THE ENTIRE Salinas Valley will benefit from water stored in Pioda Dam on the Nacimiento River. Water previously wasted as destructive floods will be used to raise the Valley's water table. (Composite photo of relief maps at Pacific Grove Museum of Natural History, and at Monterey County Court House, Salinas)



MR. ARNOLD FREW, chairman of Monterey County Flood Control and Water Conservation Committee is best known in the sugar beet business as President of California Beet Growers' Association.

To him goes the credit for carrying on the work initiated by Charles Pioda, first chairman of Monterey County Flood Control and Water Conservation District.

Calif. Sugar Beet 20

To finance a program of educating the public to the need for action, Frew solicited and received substantial donations from landowners, utilities and industries in the Salinas Valley. Spreckels Sugar Company pledged the services of Agricultural Engineer Austin Armer to coordinate the educational campaign. The seven newspapers, two radio stations and one television station in the Salinas Valley gave all-out support to the campaign.

The publicity program covered five weeks, and reached saturation proportions on the four days preceding the special election of April 26. On that day, 60% of the registered voters cast an overwhelming (11.5 to 1) vote favoring the bond issue.

WATER IN 1957

Final plans for the dam are now on the drawing board. Steps to acquire land in the flooded area have been taken. The time-table calls for completion of the structure in October, 1956.

In the summer of 1957, and in every summer thereafter, something new will be seen in the bed of the Salinas River—water. Instead of the parched ribbon of white blow-sand that marks the course of that river, there will be a clear flowing stream drenching its sandy bottom, and sending a million trickles into the gravels that form the underground reservoir of all the Salinas Valley.

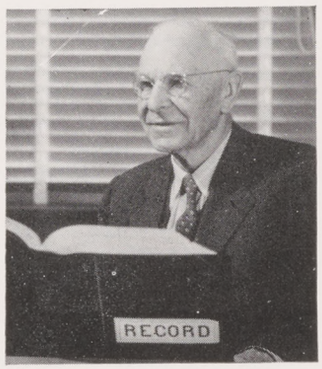


THE COVER—a montage, with Pioda Dam shown as a photo of a scale model built by the Salinas Model Railroad Club.

21

MR. CHARLES PIODA viewed the record of his achievements with understandable satisfaction when he retired from Spreckels Sugar Company in 1945.

His years as Resident Manager of the Spreckels Factory were devoted in part to the cause of flood control and water conservation in the Salinas Valley. He was founder and first chairman of the Monterey County Flood Control and Water Conservation District.



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Water will rise in the wells that pierce the gravel beds—not fall, as it has over the past years of overdraft. That water will spell economic security for all the people who live in the Salinas Valley—all the people who own the good land, who raise the crops and who work at the array of jobs that stem from a rich agricultural economy.

WATER WHERE IT'S WANTED

All the water used in the Salinas Valley originates in the Salinas River and its tributaries. Few areas in California are so lucky—for it is the rule for California water to originate far from the lands that thirst for it. The pioneers who founded the Valley's agriculture and industry well knew their dependence on water, and a few were far-sighted enough to plan the conservation of that water.

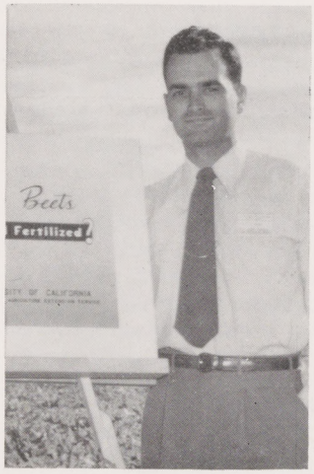
In 1927, Mr. Charles Pioda was resident Manager of Spreckels Sugar Company's big factory at Spreckels, near Salinas. For many years he had studied the Valley's water needs and water reserves, concluding that there was water enough for many years to come, but that an expanding agriculture would ultimately tax the water reserves beyond their capacity. He founded the Monterey County Flood Control and Water Conservation Committee—a body dedicated to the principle that the Salinas Valley must never be in want of water. Charles Pioda was chairman of this committee until his death in 1949. His years of devotion, of effort and of unswerving purpose have been climaxed with an almost unanimous vote by the people of the Salinas Valley to follow his advice, and to build upon the foundation he laid—to put to beneficial use the waters originating in the valley where they are needed.

On May 9, the Monterey County Board of Supervisors unanimously passed a resolution recommending that Pioda Dam be the official name of the structure built by the people of the Salinas Valley, unaided by State and Federal Agencies, for the relief of their own water problem by conserving their own water resources.

Spreckels Sugar Company takes great pride in the knowledge that Charles Pioda's years of work have been rewarded with this recognition.

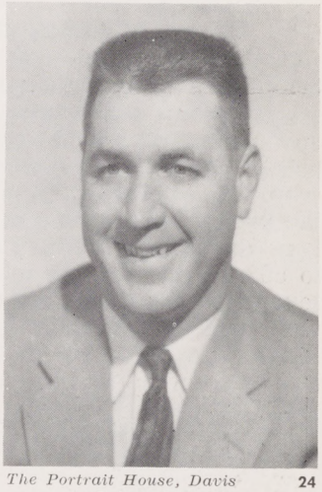
UNIVERSITY STAFF CHANGES

AGRICULTURAL EXTENSION specialist F. J. Hills has been promoted to Regional Director of Agricultural Extension for Northern California. This marks another step in a career dedicated to sugar beet agronomy. Mr. Hills did outstanding work as Agronomist of Spreckels Sugar Company prior to 1951, the year he joined Extension Service as Extension Specialist in Sugar Beets.



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F. Jack Hills

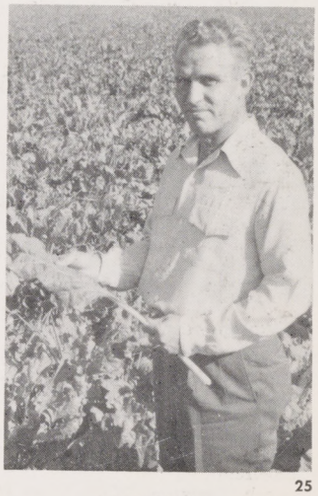


The Portrait House, Davis 24

Robert C. Pearl

Jack Hills' replacement will be Robert C. Pearl, who has been on the Extension Service Staff since 1947. He was farm advisor in Sutter County until 1953, spent a year and a half with the International Harvester Company dealer at Gridley, and rejoined Extension in 1954 as Area Farm Advisor in Vegetable Crops at Davis.

David Ririe, Assistant Agronomist and Assistant Professor of Agronomy, will end his valuable services to sugar beet agriculture to embark on a foreign mission for the Latter Day Saints Church. Dave will spend five years near Hamilton, New Zealand, where he will be in full charge of converting 1,300 acres of virgin peat land into diversified crop production in connection with a college founded on the site. His good work on behalf of California sugar beet growers will be carried on, but his successor has not as yet been appointed.



25

David Ririe



THE USDA SUGAR-BEET BREEDING PROGRAM IN CALIFORNIA

By J. S. McFARLANE[1]

THE USDA SUGAR-BEET research program in California is no stranger to the readers of Spreckels Sugar Beet Bulletin. In the last issue, Dr. C. W. Bennett discussed the sugar-beet yellows disease as it occurs in this State. In this issue we will discuss the USDA breeding program which is aimed at the development of high-yielding, good quality beets which are resistant to bolting as well as to various diseases.

BOLTING RESISTANCE

In California, our mild climate makes it possible to plant beets much earlier than is possible in any other part of the country. When beets are planted during the fall and winter they have a tendency to bolt, or go to seed, rather than to produce a root crop. The two environmental factors responsible for the production of seed stalks are cool weather and long day length. When temperatures drop to 40° to 50° F., and remain relatively low for a period of several weeks, chemical changes occur in the beet plant which cause it to go to seed. These changes, which we refer to as the induction of bolting, begin just as soon as the beet seed sprouts. The induction process brought about by low temperatures continues throughout the winter and spring until the weather becomes warm. Actual bolting ordinarily will not start, however, until the days get longer in March, April, and May. The amount of bolting which occurs in any given year is dependent on climatic conditions. Bolting may also vary from one field to another, depending on the date of seed germination, fertility level, soil type, and on the variety of seed which is planted.



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BOLTING is induced at an early age in these beet seedlings by a combination of light and cold.



26

BOLTING is induced in field plots by artificial illumination. When seed from these non-bolting selections is planted under normal field conditions, the resulting beets are highly resistant to bolting.



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COUSIN of the sugar beet is *Beta Pattelaris*, a plant completely immune to sugar beet nematode. Attempts are being made to breed this immunity into commercial sugar beet varieties.

[1]Geneticist, Field Crops Research Branch, Agricultural Research Service, U. S. Department of Agriculture, Salinas, California.

Our present varieties differ markedly in their resistance to bolting. The highly curly-top-resistant variety, US 22, lacks bolting resistance and can be used only for spring plantings. The US 56/2 variety has good bolting resistance but has only moderate resistance to curly top. The new variety, US 75, combines resistance to bolting and curly top. In addition, varieties with varying degrees of bolting resistance have been developed by sugar company breeders.

The development of breeding stocks and varieties with high bolting resistance, coupled with other desirable characteristics, is a major objective of the USDA breeding program in California. Breeding stocks have been selected which ordinarily will not bolt even when planted as early as September in the Salinas Valley. When a sugar beet possesses this much bolting resistance a serious problem of seed production arises. Much of the seed of our present bolting-resistant varieties is grown in Oregon and near Tehachapi, California, where environmental conditions are favorable for the induction of bolting. Our present bolting-resistant varieties ordinarily reproduce very well in these areas but considerable difficulty has been experienced in obtaining seed of our most resistant breeding stocks. For this reason, it may be difficult to incorporate a great deal more bolting resistance into our varieties and still produce seed economically. Much can be done, however, to improve the quality and disease resistance of our present bolting-resistant varieties.

DOWNY-MILDEW RESISTANCE

Downy mildew caused by the fungus, ***Peronospora schachtii,*** is an important disease in the coastal valleys of California. The disease attacks the leaves and crown of the plant, causing a reduction in root yield, sucrose content, and purity. The US 75 variety has more resistance to mildew than either US 56/2 or US 22 but may be seriously damaged when weather conditions are favorable for the disease. Work now in progress at the U. S. Agricultural Research Station at Salinas indicates that it will be possible to develop varieties which are highly resistant to mildew. Inbred lines have been developed which have repeatedly shown only 2- or 3-per-

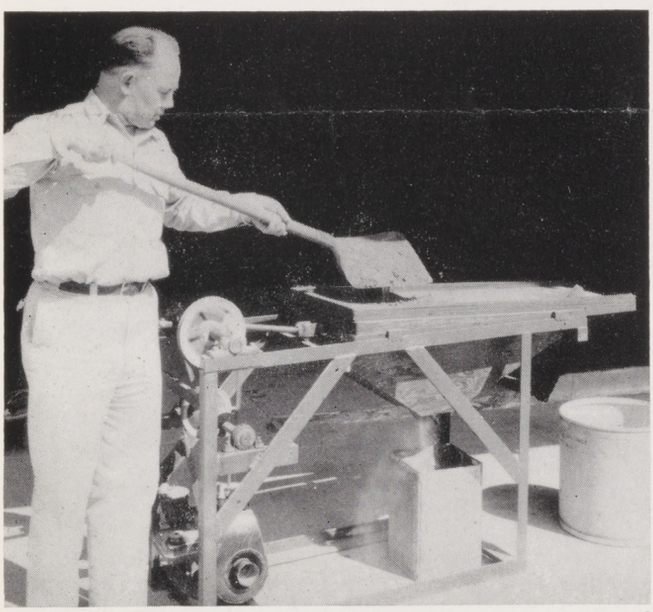
cent mildew, whereas susceptible inbreds in the same plot showed 75- to 90-percent mildew. Work is under way to combine this high degree of resistance with other desirable characteristics such as bolting and curly-top resistance.

MONOGERM SEED

Practically all phases of sugar-beet production have now been mechanized, with the exception of thinning. The present status of machine thinning was discussed in the last issue of Spreckels Sugar Beet Bulletin. One of the seed obstacles to successful mechanical thinning is the multiple nature of the seed. The ordinary beet "seed" is actually a cluster of from 2 to 5, or more, true seeds. When such a seed is planted a clump of plants emerges which cannot be successfully thinned with a machine. The sugar companies have partially solved this problem by processing the seed before it is issued to the growers. A more satisfactory solution would be the development of varieties which would produce only one plant to the seed. In 1948, Dr. V. F. Savitsky, working at the U. S. Sugar Crops Field Laboratory in Salt Lake City, found a plant which produced such a seed. Unfortunately, this plant was of little value except as a source for this monogerm character. Sugar-beet breeders throughout the country are now busy incorporating the monogerm character into lines which have disease resistance and other desirable qualities. In California, we are placing primary emphasis on the development of good quality monogerm lines with high bolting resistance.

NEMATODE RESISTANCE

One of the more serious unsolved problems of sugar-beet production is that of the sugar-beet nematode. This serious pest is prevalent in nearly all of the sugar-beet production areas of California with the exception of the Imperial Valley. Control through the use of chemicals has proved only partially effective in some soils and has not been economical in those soils in which it is effective. All of our present sugar-beet varieties are highly susceptible to the sugar-beet nematode.



29

CONCENTRATED NEMATODE population is obtained in the soil passing through this specially designed sifting device.

In 1954 a project on breeding for nematode resistance was started at the U. S. Agricultural Research Station at Salinas in cooperation with the Beet Sugar Development Foundation and the University of California. An effort is being made to find resistance in our present varieties or breeding stocks. If this should prove impossible, an attempt will be made to transfer resistance from some of the wild relatives of the sugar beet which are known to be highly resistant to the sugar-beet nematode. Before this can be done, it will be necessary to produce hybrids between the sugar beet and these wild species. Dr. R. T. Johnson described in the November-December 1954 issue of Spreckels Sugar Beet Bulletin some of the work he is doing to produce these hybrids.

Regardless of where we find resistance, it will undoubtedly be several years before a variety can be developed which is resistant to the sugar-beet nematode.

HYBRID VARIETIES

Gross sugar yields 10 to 20 percent higher than those now being obtained may soon become a reality, through the development of hybrid varieties. In tests conducted this past year, hybrid varieties developed in California yielded as much as 20 percent more sugar per acre than did US 75 used as a check. These hybrids were produced by using cytoplasmic male-sterile strains as the female parents and unrelated inbreds or selections as the pollen parents.

In addition to increasing sugar yields, hybrid varieties also provide an opportunity for combining resistance to Cercospora leaf spot, curly top, and bolting. Such a variety is badly needed in the north Sacramento Valley. Hybrid varieties also offer an effective way of utilizing the monogerm character because only the female parent needs to be monogerm. For this reason, our first monogerm varieties will undoubtedly be hybrid varieties.

In the breeding program at Salinas we are placing a great deal of emphasis on the development of inbred lines of beets which, when crossed with male-sterile parents, will produce superior hybrids. This involves the production and testing of large numbers of inbred lines which can best be done through the cooperative efforts of all sugar-beet breeders who are concerned with the development of varieties for this area. Such a cooperative approach to the problem is now under way. Hybrid combinations produced in the USDA program are tested by the company breeders and also by the University of California. Inbreds and male-sterile strains which show promise are made available to interested breeders for use in their own programs.



PROGRESS IN SPRECKELS AGRICULTURAL RESEARCH PROGRAM

Dr. RUSSELL T. JOHNSON
Plant Breeder, Spreckels Sugar Company

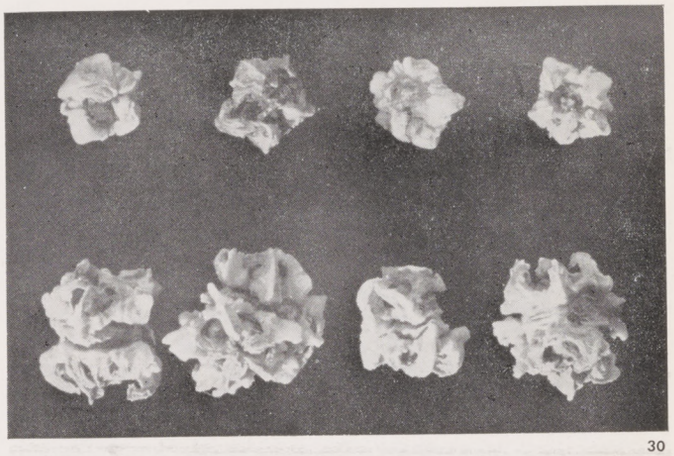
THE MAIN EFFORT in the Agricultural Research Program of Spreckels Sugar Company is being devoted to developing varieties of of sugar beets to meet the special needs of the Company's far flung growing areas. Day to day progress on these many projects often seems negligible but when the progress is viewed from one year to the next some important advancements become apparent. The practical success of a plant breeding program is realized only when better varieties developed from such a program come into commercial use. Prior to 1952 all of the seed supplied to the growers by Spreckels Sugar Company was of varieties developed by the U.S.D.A. In 1952 we made available to our growers a new Spreckels variety, S-2, which had been shown to be superior under some conditions to the available commercial U.S.D.A. varieties.

NEW SEED TYPES

In 1954 our variety testing program included tests in all of our beet growing areas. The variety test under growers' conditions is the acid test of a new experimental variety. It is here they are compared with commercial varieties and must be accepted or rejected according to their performance. Variety testing is a continuous process in a plant breeding program. As new experimental varieties are shown to be superior to commercial varieties, they are moved into commercial production and they then become the standards against which future new experimental varieties will be compared.

All of our commercial varieties at present are open pollenated, rather than hybrids. We are now doing a large amount of work on the development of hybrids, combining U.S.D.A. experimental varieties with our selected strains. Two of our experimental hybrid varieties are being increased in Oregon at the present time on a small scale for further testing. Sugar beet hybrids are produced by using one strain, known as a male sterile, which is incapable of producing pollen, as the seed, or female, parent and then supplying pollen to these plants by interplanting another strain as a pollenator. Seed produced on the male sterile plants is all hybrid seed and if the two parents were carefully selected based on previous testing, a desirable hybrid should result. Another method of producing hybrids appears to be by the use of polyploidy. This latter method at present is only under preliminary investigation but does have certain possibilities that will be explored further.

The single germ characteristic in sugar beets which appears to be an aid in spring mechanization has now been incorporated into several strains which meet our growers' needs. These are being field tested. A few such strains were included in the 1954 tests, and there will be several single germ varieties included in the 1955 tests. Problems of the



30

SINGLE GERM seeds (above) have, in the past, been small and flat. New varieties are larger and plump.

single germ strains have been small seed, size, making seedling stands difficult to secure, and vigor of the plants themselves. New single germ material appears to have made considerable improvement in both these respects.

DISEASE RESISTANCE

Resistance to downy mildew caused by ***Peronospora schachtii*** in sugar beets has been difficult to acquire by mass selection. By a method of paired crossing, several strains have been isolated which show a considerable improvement in mildew resistance over present varieties. The best of these strains have been composited and are being increased on a small scale in Oregon at present. Field testing of seed from this increase will determine if its resistance is maintained and also if the composited strain will perform satisfactorily in our coastal growing areas.

Low temperature germination selections combined with slow bolting selections have been made in a variety which possesses a relatively high degree of both curly-top and leaf spot resistance. Seed of this variety was sent to Oregon for a three acre increase. The purpose was to provide a variety satisfactory for our northern areas of the Sacramento Valley where



31

SUGAR BEET LEAVES with various degrees of Corcospora damage.



32

COLD GERMINATION variety (left) has emerged as a heavy stand, while commercial variety (right) has barely emerged.

leaf spot caused by ***Cercospora beticola*** has become a problem in recent years.

Our studies on low temperature germination have resulted in the development of one new commercial variety. This is being increased for commercial use at the present time. It is of the S-2 type, that is, moderately slow bolting, good mildew resistance and high curly-top resistance. Other improvements have also come from this program. Some strains which have been developed for possible use as parental material for future hybrids are very good in this respect.

NEMATODE CONTROL

Research work in the control of the sugar beet nematode is continuing along two lines: (1) agronomic or cultural control, and (2) inherent resistance. In our nematode infested plot, the University of California, in cooperation with several chemical companies, continues to test materials that may be of value as soil fumigants. No satisfactory control has yet come from the approach but efforts are continuing.Our selections within sugar beet varieties for resistance to this pest did not meet with much success. Our efforts in search of resistance have now become more concentrated on the approach of crossing the sugar beet to some of its wild, annual, immune relatives in hopes of obtaining resistance. Problems have been encountered in this approach but we are continuing our efforts.



33

NEMATODE infestations like this may someday be a thing of the past.

The Nematode problem is being attacked from many directions and must eventually yield to research.



34

THEY ALL have the same parents! These hybrids ***(Beta Vulgaris X Beta Webbiana)*** bear scant resemblance to each other, or to their mother, the sugar beet. From the offspring of these plants, an attempt will be made to select individual plants which will resemble the sugar beet but also possess the nematode resistance of the wild parent, ***B. Webbiana.***

The over wintering of sugar beets has been accepted by Spreckels growers as a desirable procedure after four very successful spring campaigns. It has been shown that there is no general loss to the grower and in many instances there is an increase in sugar per acre as a result of leaving the beets in the ground over the winter. Periodic sampling tests on plots have indicated an increase of about one ton per acre per month through the winter months. Some of the advantages of this program to the growers are; (1) In some cases a grower may be able to harvest three crops in two years,

SUGAR BEET MARRIAGE. The big plant is a sugar beet variety so resistant to bolting that it took three years of special environment to make it flower. Bag pollination will cross it with the inbred variety in the small pot.



35

(2) It relieves the necessity of an expensive harvest in the mud after the fall rains come, (3) It helps relieve some of the pressure to harvest in the fall, permitting a more orderly harvest schedule with consequent benefits to our growers' convenience and economy. In another aspect of over wintering beets, that of planting in September for harvest the following summer, tests have shown that it is quite possible that varieties can be produced with enough bolting resistance that such an operation can be carried out in some sections of the San Joaquin Valley. Selections have been made which show considerable bolting resistance and they are being tested in the San Joaquin Valley at this time.

Some other projects which are in addition to our plant breeding program might also be briefly reviewed.

OTHER PROJECTS

A rotation experiment to determine the rotation most advantageous to a sugar beet crop has been in operation for two years. It has one more year to continue after which the entire field will be returned to sugar beets and the yields measured to determine the effects of the preceding crop sequences. Six different rotations commonly occurring in the Salinas Valley are being checked.

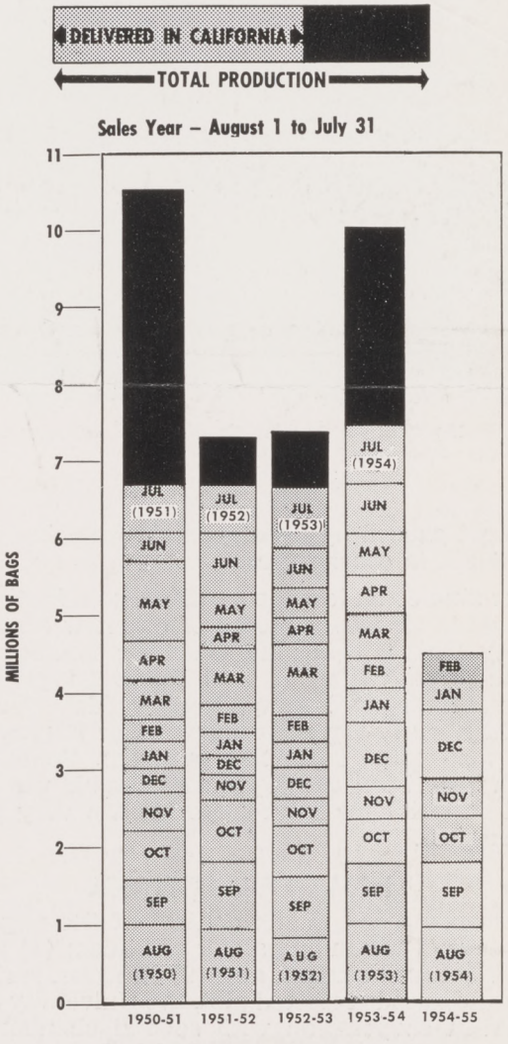
Chemical weed control has been a long sought after goal because of the ease with which it could be effected if practical. One of the most serious weed pests we have is watergrass in the Sacramento and San Joaquin Valleys. Many of the selective herbicides which have given successful control on certain grasses in some areas have not been effective in eradicating watergrass. A new material, Dalapon, provided by Dow Chemical Company has been tested and shows some indication of promise. Further testing will be done.

All projects of the Spreckels agricultural research project are aimed at the specific needs of Spreckels growers, and are coordinated with Federal and State programs to avoid duplication.

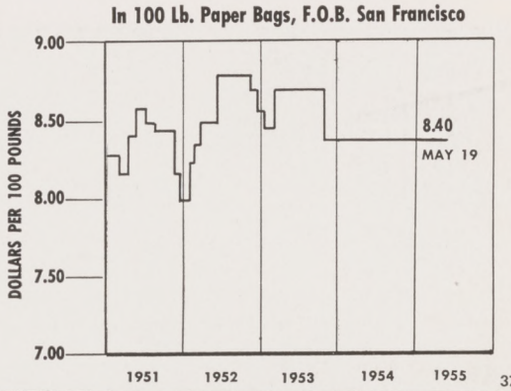


SUGAR BEET GROWERS use Spreckels-developed seed varieties, fully confident that each variety has been "tailored" to their individual conditions.

PRODUCTION AND DELIVERIES OF BEET SUGAR IN CALIFORNIA



QUOTED PRICE OF BEET GRANULATED SUGAR

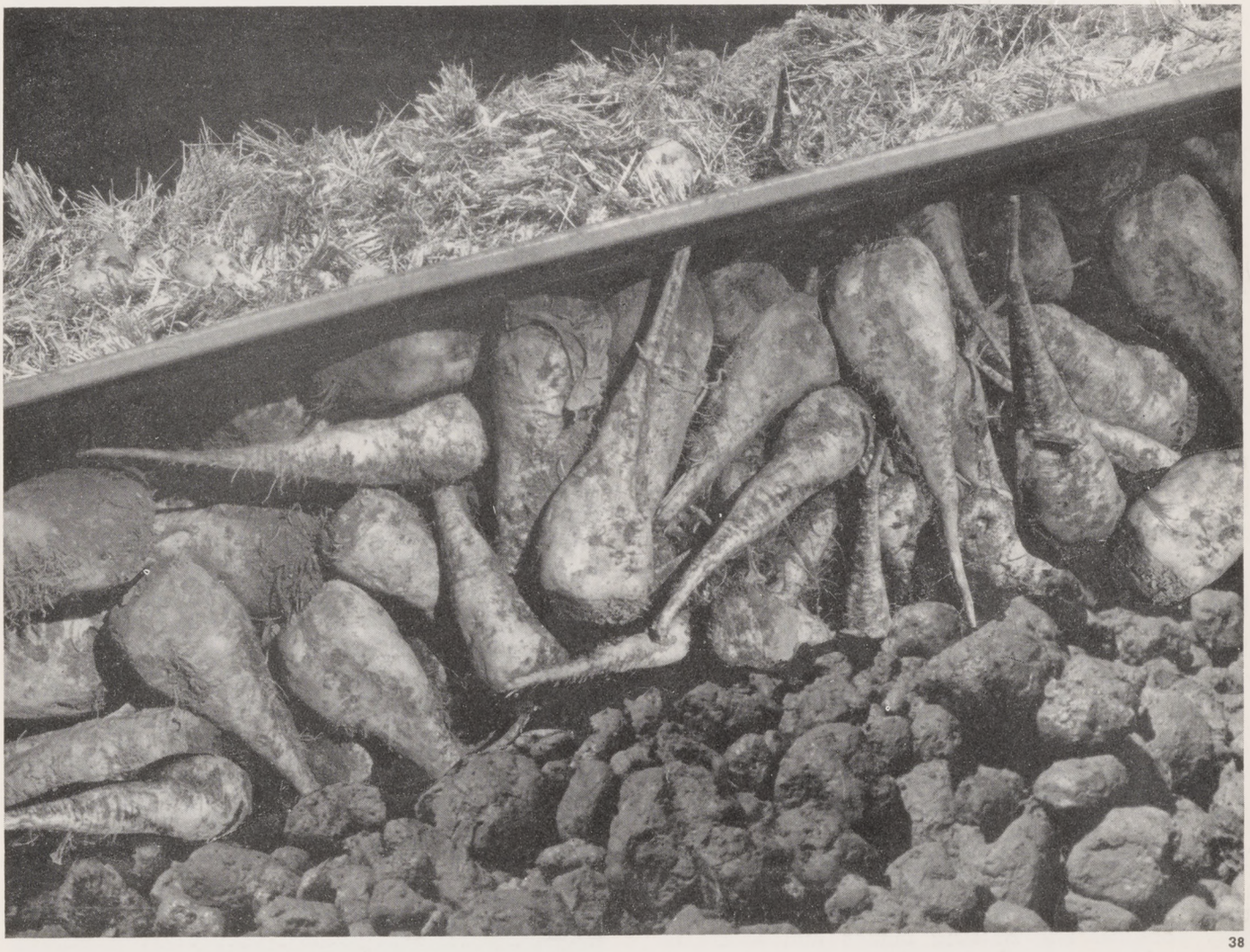


The SPRECKELS SUGAR BEET BULLETIN is issued bi-monthly by the Agricultural Department of the Spreckels Sugar Company as a service to its growers.
Mention of specific methods, devices and implements does not constitute an endorsement by the Company.
All photographs by the editor unless otherwise indicated.
AUSTIN ARMER, Editor SPRECKELS SUGAR COMPANY WOODLAND, CALIFORNIA

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AUG 2 2 '55

SPRECKELS SUGAR BEET BULLETIN



38

ONLY THE BEETS PAY OFF

Beets make the sugar—you are paid for the beets, but not for

TRASH,

CLODS,

TOPS.

When such foreign material is delivered with the beets, we all lose. See page 26.

Vol. 19 JULY-AUGUST, 1955 No. 4

PUBLISHED FOR CALIFORNIA SUGAR BEET GROWERS BY THE SPRECKELS SUGAR COMPANY

GOOD HARVEST MANAGEMENT PAYS

By AUSTIN ARMER
Agriculture Engineer, Spreckels Sugar Company

THERE IS more to harvesting beets than putting a machine and an operator into the beet field—a lot more.

What more? To put it into one word, it is Management. This over-worked word means the intelligent supervision of all the many details of harvesting which add up to a job well done, with its rich reward in dollar profit and pride of achievement.

WHEN DOES HARVEST BEGIN?

Long before the first beet is dug. The planning stage of harvest management is the foundation of the whole structure. The old rule of "Who-What-Where-When" is particularly fitting, and can be expanded thus:

WHO will harvest my beets? Will it be my own men on my own machine? A commercial operator with all his own equipment? A neighbor who will share his equipment with me?

WHAT type of harvester shall I use? Single Row? Double Row? Spike wheel type? Hand sorting type? Direct loading type?

WHERE shall I start harvest? Where sugar tests highest? Where soil condition is just right? Where beets are biggest?

WHEN shall I start harvest? When sugar tests high enough? When nitrogen is depleted? When it is convenient?

All of these questions should be considered far in advance of harvest season—some of the answers are even determined before planting time. Throughout the growing season, harvest problems should be anticipated, and discussed freely with your field superintendent.

YOUR FIELD SUPERINTENDENT WILL HELP YOU

He is the man who has the answers to many of these questions, and his job is to help you in every way possible. His training makes him aware of your problems as well as the factory's problems. If he suggests a type of harvester, or a date of harvest, and you can't agree with him, tell him so. You may both have reasons unknown to the other. It pays to talk things over.

When harvest has begun, the Field Superintendent, can be of particular help. His job is to coordinate the operations of all the growers in his district, and to help each grower to the most orderly harvest possible. So if your Field Superintendent points out that trash or clods in your beets are delaying the beet receiving station, he is not scolding you; he is protecting you from the wrath of your neighbors.

THE HIGH COST OF MISMANAGEMENT

Let's look at the dirt problem. We all agree that some field conditions make it practically impossible to harvest beets without getting some clods into the load. But there is a limit to what the factories can

(Continued on Page 30)



Union Pacific Railroad Photo 39

HAND SORTING is a sure fire system of clod elimination. It is slower than direct loading, but it does the best cleanup job in cloddy going.



40

DIRECT LOADING harvesters work fine when the soil is just right — either sandy or moist and friable. But beware of clods when the ground is hard.



41

MUDBALLS — Rock-like clods cannot be screened from beets — they are partially recovered by the flume rock catchers, but some get into the cutters, wreck the knives, and reduce factory production.



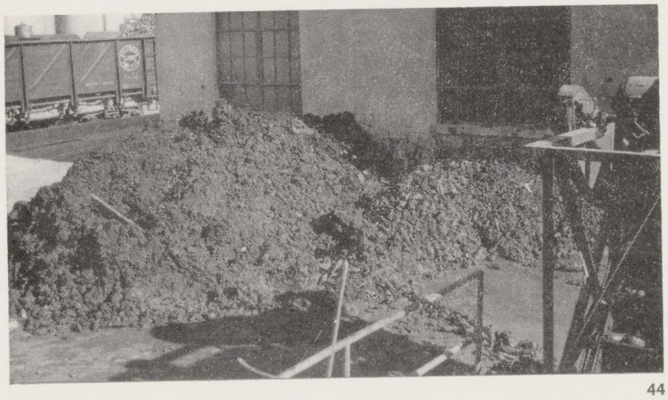
42

SKIP IT! When weeds and water grass take over a spot in the beet field as completely as this, it just doesn't pay to harvest. Skip that patch; save time and money.



43

NOT HAY — but it might as well be, for all the sugar that's in it. Such masses of grass and roots are usually harvested in parts of a field where there are few or no beets. Much better not to harvest at all.



44

ROCKPILE — Every 8 hours this heap of rocks and mudballs is dragged out of the flume. Proper harvest supervision could eliminate most of this at a tremendous reduction in growers' hauling costs.

VETERAN AGRICULTURIST AT SPRECKELS RETIRES



45

WILLIAM H. PAULSEN (seated) was honored at a retirement banquet; George P. Wright was master of ceremonies.

WILLIAM H. PAULSEN, Agricultural Superintendent at Spreckels, retired on July 1 after fifty years of service to Spreckels Sugar Company and its growers.

William Paulsen's employment by Spreckels Sugar Company actually covers more than fifty years, if his summer vacation jobs on the Company's Soap Lake Ranch 4 in 1902, 1903, and 1904 are recorded. When he finished school in the summer of 1905, he took a full time job at Ranch 4. In 1908 he became bookkeeper of Spreckels' big Ranch 1, which spread over all the land from Salinas west to the river.

He became successively Foreman of Ranch 1 (1914), head of the Stockton Field Office (1916), the Manteca Agricultural Office (1919), Assistant Agricultural Superintendent at Spreckels (1920), and Agricultural Superintendent at Spreckels (1927).

His subsequent years at Spreckels have so enriched his acquaintance with farming and farmers of the Salinas Valley, that his knowledge is nothing less than encyclopedic. Obscure questions relating to sugar beet agriculture are often answered by the wiser members of the community: "Don't trust the records — ask Mr. Paulsen."

Mr. Paulsen has always been active in the affairs of the community—at Spreckels, in Salinas and in the Salinas Valley. He holds memberships in the Salinas Elks Club and in the Exchange Club.

His duties as Agricultural Superintendent at Spreckels will be carried on by J. Byron Larsen. Mr. Larsen's 20 years of experience with Spreckels Sugar Company afford a rich background for his new job.

More about Mr. Larsen and the Spreckels Agricultural staff appears on page 30 of this issue.

The Honor Roll for 1954

DISTRICT 1, SPRECKELS

Grower	Acres Contracted	Tons Per Acre	Pounds Sugar Per Acre
Robasciotti, Ervin	18	40.08	13,065.75
Little, R. B.	16	39.69	12,416.88
Noll, Alvin	45	38.93	12,769.67
Jefferson, Walter & Sons	16	37.29	11,596.24
Duarte, A. S.	54	35.19	12,091.70
Steidley & Uyeno	50	35.11	10,245.58
Wood, R. G.	12	35.08	10,465.75
Oliviera, M. & Son	18	35.04	11,176.98
Steidley & Uyeno	40	34.66	10,594.88
Riva, Alfred	18	34.40	10,017.89
Filice, Frank S.	3	34.40	9,956.33
Tonasello, T. O. Company	11	34.40	9,427.36
Riva, Alfred	21	33.93	10,625.10
Fujii Brothers	20	33.56	11,252.60
Crinklaw, William	38	33.53	9,445.74
Pack, W. A. & W. G.	56	33.05	8,980.13
Semas, Harry	27	32.87	10,716.44
Schween Brothers	25	32.83	10,251.50
Christensen, H. & E.	61	32.52	8,630.81
Sargenti, R. & Son	33	32.49	9,915.92
Gianolini, Charles	52	32.28	9,604.01
Pervetich, Steve	10	32.27	10,247.80
Meyer, Leo A. & Robert L.	22	32.26	10,155.37
Fillipelli and Tognetti	50	32.18	9,357.58
Clark & Togni	18	32.05	9,783.26
Cotta, Frank	22	32.04	9,323.58
Merrill Farms	45	31.97	9,346.45
Harden Farms of Calif.	26	31.94	10,023.53
Taylor, Frank	37	31.86	10,241.46
Bacciarini, T. G.	35	31.85	9,551.42
Teraji, Henry	14	31.83	9,564.86
Lanini Brothers	13	31.61	9,871.82
Grainger, W. B. Packing Company	40	31.59	9,173.56
Frew, Arnold	36	31.58	10,253.38
Steidley & Uyeno	24	31.45	10,064.42
Allemand, H.	53	31.38	9,930.17
Domingos, M. P.	56	31.26	9,552.68
Furtado, M. S. & Son	10	31.25	9,196.70
Marinovich, J. G., Inc.	75	31.12	9,691.88
Martin, Raymond	19	31.12	9,062.45
Anthony, Paul	31	31.10	10,152.87
Homan, Tony, Jr.	17	31.05	9,446.92
Hansen, Albert C. & Son	145	30.98	9,821.37
Forden Farms	30	30.78	9,052.85
Reed, Michael Gomes	4	30.77	7,587.00
Hitchcock Brothers	44	30.69	8,972.96
Homan, Jesse G.	12	30.68	10,473.71
Taix Company	95	30.40	9,980.49
Tavares Brothers	13	30.38	10,366.46
Wyman, Phillips, Jr.	24	30.37	7,279.83
Massa Brothers	32	30.35	9,300.60
Sgheiza Brothers	45	30.06	9,054.11
Cunha, Joe	69	29.85	10,230.94
Burke Farms Company	37	29.71	9,638.27
Kane, Gene Company	26	29.68	9,805.90
Gubser, August R.	12	29.65	9,653.83
Salmina, L. & A.	32	29.61	9,889.10
Nishimoto, T. R.	18	29.56	10,456.06
Tognetti Brothers	66	29.55	8,618.65
Connell & Reed	27	29.34	9,818.26
Thorne, R. J.	20	29.34	8,423.95
Breschini, Peter & Arnold	22	29.32	7,812.74
Prasso, A.	19	29.24	9,689.48
Schween Brothers	40	29.23	8,621.86
Birbeck, F. V. Co.	32	29.21	8,813.27
Bardin, Oliver C.	46	29.09	7,810.17
Salinas Valley Veg. Ex.	25	28.98	9,146.96
Ferraro, Gene G.	17	28.97	9,014.35
Connell & Reed	26	28.93	8,993.29
Senestraro, Louis	31	28.87	9,308.68
Harden Farms of Calif.	54	28.82	7,757.94
Tavernetti Ranch	18	28.79	9,056.24
Jarvis, J. P.	30	28.72	9,211.87
Garin Company, The	25	28.69	8,749.96
Tidd, R. V.	18	28.62	9,246.50
Silva, Anthony	54	28.62	8,631.07
Battinich, Louis P.	32	28.52	9,396.13
Hutchings, Foster	26	28.50	9,355.23
Wyman, Phillips, Jr.	20	28.44	8,421.09
Abeloe, E. H.	35	28.42	9,609.34
Resetar Produce Company	45	28.42	8,170.80
De Serpa Brothers	30	28.42	7,836.25
Riley, J. H.	36	28.34	9,583.58
Gularte Brothers	34	28.33	9,073.55
Silva, Anthony	100	28.32	9,428.70
Vucovich, Peter	24	28.31	9,749.63
Lazo & Deo Campo	4	28.27	9,582.75
Guidotti, Leonard	26	28.19	8,449.46
Gibson Brothers	20	28.18	9,684.65
Corda, John & Bob, Jr.	20	28.17	8,312.70
Sargenti, R. & Son	9	28.09	8,935.78
Fanoe, Jim	40	28.08	9,278.02
Watsonville Exchange Co.	24	28.07	8,823.83
Smith, T. R.	54	28.06	9,398.30
McKinley & Nevin	45	28.06	8,230.93
Scaroni, A. & C.	24	28.03	8,329.43
Resetar, Michael, Jr.	42	27.98	8,498.76
Jacop Brothers	15	27.96	9,652.04
Johnson, Roy W.	25	27.80	8,692.76
Clark & Romans	84	27.78	8,587.12
Sears Brothers	9	27.69	9,137.36
Fanoe, Jim	103	27.67	9,091.86
Martin, Raymond	9	25.43	8,494.00
Marci, R.	12	27.61	8,535.42
Merrill Farms	98	27.61	8,339.51
Trafton & Stephenson	21	27.50	8,543.10
Gambetta, Joe P.	32	27.33	8,607.25
Pacheco, Joe & Pura, Wm.	10	27.26	8,942.96
Moisoli, Joe & Son	26	27.22	8,962.43
Harden Farms of Calif.	38	27.13	7,863.22
Farley Fruit Company	31	27.11	8,309.58
Corda & Verzascioni	17	27.10	8,255.29
Santa Rita Ranch	34	26.96	8,482.71
Gardoni, John	31	26.94	9,915.03
Johnson, C. L. & A. W.	14	26.94	8,381.87
Harney, T. & Company	30	26.93	8,402.55
Mahoney, John D.	26	26.88	8,080.45
Black, Bennie S.	38	26.85	8,148.44
Scurich, N. P.	10	26.83	8,928.40
Massera, Al, Inc.	14	26.81	8,797.52
Allemand, H.	58	26.76	7,726.33
Soares & King	48	26.67	8,421.07
Bondesen, Henry	36	26.66	8,641.26
Crinklaw, William	33	26.51	6,701.82
Gomes Brothers	19	26.58	8,310.79
Cotta, Frank	19	26.57	7,891.58
Frew Brothers	65	26.56	8,650.45
Silveira, Antonio	27	26.53	8,834.48
Meyer, Leo A. & Robert L.	20	26.51	8,200.40
Bellone and Del Chiaro	16	26.48	8,989.68
Frassetti Brothers	27	26.48	8,408.70
Vojvoda, Pete	8	26.48	7,873.90
Vosti, A.	46	26.43	8,197.17
Kamimoto, K.	25	26.41	7,803.84
Meyer, Emil	109	26.40	8,310.31
Franscioni, Griva & Son	62	26.39	8,695.93
Alexander, Roy	12	26.35	9,079.76
Nunez, P. L.	26	26.31	8,813.18
Culver, J. E.	43	26.23	8,046.44
Travers, F. S.	26	26.21	8,664.86
Stacey, W. L.	55	26.21	8,541.27
Boone, Raynold	50	26.18	8,899.04
Petersen, O. L.	53	26.14	8,262.38
Scaroni, I.	31	26.12	8,187.90
Travares Brothers	30	26.10	8,147.72
Riva, Alfred	10	26.06	8,272.31
Castroville Ranch & Packing Co.	24	26.03	8,800.00
Pacheco, Joe & Pura, Wilmer	10	25.97	9,137.78
Taix Company	36	25.97	8,731.03
Botelho Brothers	45	25.91	7,790.42
Rohde, Albert	37	25.85	8,680.24
Tidd, R. V.	30	25.80	8,001.77
Tamagni Brothers	18	25.80	7,586.65
Nyland, Arthur S.	80	25.79	7,763.13
Taix Company	24	25.77	7,955.75
Estes and Strobel	41	25.74	8,196.92
Storm, Tom	32	25.72	8,669.20
Herbert, G. W.	78	25.72	8,424.53
Gubser, August R.	14	25.72	8,024.86
Tognetti Brothers	22	25.67	7,674.98
Arcotti, Mary	18	25.60	8,064.48
Nunes, John G., Jr.	48	25.52	8,131.10
Sargenti, R. & Son	9	25.50	8,263.66
Hudson, Ira E. & Son	330	25.48	8,248.34
Beet Sugar Development Foundation	2	25.46	8,801.18
Wyman, Phillips, Jr.	20	25.45	7,616.45
Nishimoto, T. R.	9	25.43	8,467.50
Bellone and Del Chiaro	15	25.40	8,564.81
Jensen Farms & Company	100	25.39	8,686.43
Fabretti and Dedini	58	25.34	8,138.91
Schween Brothers	36	25.31	6,824.51
Nishimoto, T. T.	9	25.21	8,383.00
Holthouse, T. H.	64	25.15	8,414.25
Connell & Reed	22	25.13	8,236.86
Martella and Buzzini	20	25.09	7,982.39
Johnsen, Edward A.	53	25.08	7,372.30
Rohde, Albert	22	25.05	8,034.61
Scattini, Luis	27	25.01	8,203.56
Adams, J. P.	20	25.01	8,135.24

DISTRICT 2, MANTECA

Grower	Acres Contracted	Tons Per Acre	Pounds Sugar Per Acre
Maricopa Farms	37	43.86	12,465.00
Vogt, Norman	77	41.16	13,369.00
Ritz Distributing Co.	105	40.57	12,836.00
Fialho, Manuel	63	39.17	11,351.00
Silva, George, Jr.	33	38.95	11,810.00
Machado, A.	40	38.90	12,891.00
Castanho, Tony	24	38.04	12,402.00
Nogare, S.	21	37.74	12,115.00
Davis, J. A.	10	37.03	11,190.00
Perry, A. J.	67	37.03	11,413.00
Maze & Lewis	50	36.08	11,985.00
Ferreira, Tony	89	35.79	11,603.00
Rorick, Robert	33	35.79	8,769.00
Isaac Brothers	50	35.53	7,724.00
Giovacchini Brothers	10	35.13	10,715.00
Giovacchini Brothers	12	34.71	8,976.00
Berta Brothers	43	34.59	10,751.00
Robertson & Son	15	34.49	10,740.00
Pacific Fruit Exchange	109	34.31	10,437.00
Hanson, Paul	81	34.30	10,290.00
Bunn, Lum and Son	54	34.19	10,770.00
Thoming, Ed	112	34.09	10,254.00
Newhall Land & Farming Company	26	34.08	10,906.00
Escobar, Joe, Sr.	24	34.06	10,852.00
Higginbotham Brothers	33	33.69	9,346.00
Widmer, Joseph	55	33.56	11,316.00
Baty, R. M. & Son	170	33.24	11,135.00
Baugh, Johnie	134	33.20	11,109.00
Orange, Charles T.	45	32.73	10,205.00
Banducci, Fred	289	32.61	9,979.00
Tawlks, Bruce	33	32.61	9,300.00
Drew Farms	61	32.57	9,615.00
Lagario, Edward	13	32.44	11,049.00
Lopes & Freitas.	42	32.40	10,063.00
Hanson & Barkley	47	32.35	9,867.00
Newhall Land & Farming Company	46	32.35	9,543.00
Biancucci, S. & D. M.	168	32.34	10,342.00
Newhall Land & Farming Company	75	32.24	9,595.00
Armanino, John J.	14	32.23	9,108.00



All records have fallen. The 1954 Honor Roll has 40% more listings than the highest previous number of contracts yielding 25 tons per acre or more.

Spreckels Sugar Company congratulates you for having done an outstanding job of sugar beet farming — the best in all time.

Grower	Acres Contracted	Tons Per Acre	Pounds Sugar Per Acre
Brannon Farms	18	32.22	10,407.00
Ritz Distributing Co.	57	32.11	9,254.00
Burson, Ralph J.	44	32.01	9,155.00
Rodgers, Lester	83	31.74	9,376.00
Grant and Wilson	24	31.68	10,220.00
Gonsalves and Graven	168	31.62	9,284.00
Biancucci, S. & D. M.	104	31.61	9,622.00
Oliveira, Roland F.	42	31.60	9,322.00
Newhall Land & Farming Company	31	31.47	9,479.00
Thomas, Calvin	147	31.47	10,738.00
Hanson, Paul	75	31.44	9,633.00
Rorzoni, Louis J.	30	31.39	10,051.00
Sabbatini, Joe	71	31.38	9,634.00
Barandas, Manuel	71	31.27	10,444.00
Longeval, J. H.	59	31.25	8,081.00
Newhall Land & Farming Company	33	31.24	8,304.00
Cave, Sherman A.	12	31.09	7,797.00
Garsino, Joe	33	31.07	9,246.00
Baty, R. M. & Son	65	31.02	10,206.00
Davis, J. A.	37	30.93	9,830.00
Williamson, W. C.	42	30.93	10,529.00
Greene, Joe, Jr.	50	30.72	9,413.00
Voth, H. H. & Sons	160	30.46	8,072.00
Thoming, Ed	90	30.43	9,433.00
Paolletti, Roy	38	30.41	10,710.00
Pryor, C. R.	168	30.39	9,828.00
Newhall Land & Farming Company	126	30.34	9,248.00
Sousa, Everista & Sons	41	30.26	9,011.00
Heckert & Warford	141	30.25	8,295.00
Maricopa Farms	81	30.20	8,353.00
Houk, L. C.	145	30.17	9,244.00
Volk & Jarrott	102	30.11	8,611.00
Triple J Farms	184	30.07	9,695.00
Armanino, John J.	30	30.05	9,135.00
Desert Ranch	284	29.94	10,168.00
Hudiberg, Floyd	37	29.94	8,551.00
Giovannoni, Louis	31	29.90	10,064.00
Escobar, Joe, Jr.	84	29.87	8,895.00
Williams, Jack	104	29.87	8,274.00
Escobar, Joe, Sr.	26	29.84	8,534.00
Desert Ranch	78	29.80	8,880.00
Amistad Ranches	46	29.79	8,728.00
Moody, Glenn	10	29.74	7,774.00
Bergen, Walter L.	33	29.70	8,441.00
Forrest Frick Farms	130	29.65	7,958.00
Rodgers, Lester	40	29.65	9,132.00
Newhall Land & Farming Company	74	29.60	8,998.00
Triple J Farms	177	29.58	8,691.00
Branstad, Dan	33	29.56	8,218.00
Camp, J. D. & Dean	84	29.53	7,837.00
Frick Brothers	101	29.52	8,915.00
Vogt, Norman	61	29.51	8,906.00
Pierini, Mike	25	29.46	9,115.00
West, Merrill	84	29.44	9,062.00
Miller, John L.	48	29.38	9,778.00
Giannecchini, Oliver	33	29.32	8,456.00
Yamaguchi, George	31	29.20	8,293.00
Reece, Russell	44	29.16	8,806.00
Miller & Lewis	16	29.12	9,417.00
Lovegreen & Wilson	84	28.93	9,454.00
Locke, Chester M.	78	28.90	9,317.00
Solari Brothers	20	28.87	9,631.00
Graham Brothers	37	28.84	9,344.00
Pelucca, Louis W.	25	28.75	8,982.00
Double L Farms	37	28.73	7,958.00
Dasso, John	36	28.70	8,363.00
Grant and Wilson	72	28.68	8,759.00
Gerhart & Son	25	28.67	9,335.00
Brown Brothers	165	28.64	8,546.00
McConnell & Muir	31	28.60	9,295.00
Mahon, R. E.	84	28.51	9,700.00
Wasson & Emerson	117	28.39	7,484.00
Hansen, Hans & Son	9	28.27	9,318.00
Dixon & Ferreira	14	28.24	8,393.00
Mancuso, J. & C.	100	28.23	9,384.00
Desert Ranch	150	28.16	8,549.00
Grant and Wilson	70	28.12	9,280.00
Brown & Dambacher	105	28.08	8,896.00
Odermatt, Paul F.	50	28.08	8,716.00
Carruesco Brothers	16	28.05	8,112.00
Johnson & Kellogg	57	28.02	9,067.00
Petz, Dwayne	40	28.00	9,391.00
Hammonds Ranch	184	27.82	7,945.00
Castanho, Tony	18	27.77	8,590.00
Leary, Dennis W.	126	27.75	7,992.00
Petz, Irwin	22	27.68	9,162.00
Sanders & Sanders	100	27.50	8,239.00
Newhall Land & Farming Company	30	27.49	8,571.00
Volk & Jarrott	45	27.48	8,359.00
Locke, Chester M.	65	27.42	8,922.00
Greene, Joe, Jr.	30	27.29	8,547.00
Vogt, Norman	86	27.04	8,864.00
Petz, Merlyn	40	27.02	9,257.00
Newhall Land & Farming Company	185	26.98	8,423.00
Desert Ranch	71	26.94	8,184.00
Crecilius, Horse	42	26.78	9,518.00
Desert Ranch	230	26.70	7,540.00
Lagorio, George B.	148	26.69	9,091.00
Ratto, Warren	115	26.65	7,963.00
Pacific Farm Company	91	26.64	7,555.00
Sanders & Sanders	119	26.59	7,030.00
McConnell & Muir	36	26.50	8,454.00
Vista Del Llano Farms	137	26.49	8,095.00
Hudiberg, Floyd	29	26.42	7,302.00
Dargatz, Rollin E.	50	26.26	7,731.00
Llano & Perez	21	26.26	6,470.00
Drew Farms	77	26.19	7,700.00
Sanders & Sanders	142	26.19	7,920.00
Hammonds Ranch	30	26.14	8,004.00
Jones, Jack D.	29	26.07	7,800.00
Kreim, L. C.	33	26.06	8,058.00
Silva, M. E. & Frank Co.	33	26.01	7,585.00
Johnson & Kellogg	42	25.84	8,305.00
Hammonds Ranch	294	25.75	7,411.00
River Maid Farms	124	25.70	8,270.00
Rodgers, Lester	38	25.70	9,303.00
Knittel, J.	23	25.66	8,411.00
Thoming, Leo	64	25.62	8,506.00
Baumbach, M. A.	25	25.59	8,322.00
Sanders & Sanders	58	25.59	7,503.00
Sousa, Everista & Sons	137	25.57	7,809.00
Chase, C. D. & Son	18	25.49	7,137.00
Jones, Carl W.	90	25.49	7,922.00
Parsons, B. L.	46	25.49	8,962.00
Vogt, Norman	56	25.49	8,743.00
Panella, Ralph	62	25.47	7,743.00
Freeman, D. E.	379	25.46	7,694.00
Hozard, J. C.	42	25.45	8,388.00
Stark, Dean G.	43	25.41	8,380.00
Shamrock Farms	72	25.36	7,902.00
Triple J Farms	53	25.34	7,952.00
Locke Ranch	75	25.24	7,506.06
Schiaffini, Victor	7	25.23	7,428.00
Root, E. W.	134	25.17	7,083.00
Giovacchini Brothers	43	25.01	8,443.00

DISTRICT 3, WOODLAND

Grower	Acres Contracted	Tons Per Acre	Pounds Sugar Per Acre
Rehrman, Henry	114	34.97	10,764.00
Everett, Edgar	69	33.58	11,404.00
Fulmor, J. N.	105	33.33	10,879.00
Shigaki Brothers	132	33.15	10,250.00
Frates & Machado	100	33.11	9,979.00
Ordonez, C. M.	9	32.14	10,722.00
Mabalot, Thomas R.	40	32.05	10,596.00
Malcolm Farms	105	32.04	11,295.00
Ordonez, C. M.	17	32.01	11,523.00
Strehle, Catherine & Sons	26	32.01	10,307.00
Howald, Rudy	32	31.46	10,281.00
Eriksen, H. J. & Son	60	30.88	10,555.00
Nuttall, A. E.	67	30.56	9,822.00
Warner, Floyd	25	30.31	9,105.00
Eveland, Lloyd M.	35	30.21	9,184.00
Mace, C. Bruce	81	30.13	9,648.00
Regents of the University of Calif.	5	30.28	9,326.00
Glide, T. E.	50	29.88	9,568.00
Alvernaz, Frank	67	29.42	8,432.00
Partain, Z. L.	90	29.40	9,726.00
Malcolm, R .F., Jr.	97	29.36	8,649.00
Olson, E. M.	9	29.34	8,538.00
Giannoni, F. & Sons	152	29.27	9,636.00
Machado, M. G.	33	29.19	9,183.00
Meek & LeMaitre	250	29.11	9,560.00
Thorley Brothers	70	28.98	9,552.00
Tadlock, James I.	16	28.93	10,068.00
Frates & Shimada	55	28.83	8,787.00
Dyer, Frank	18	28.72	8,863.00
Howald, Rudy	60	28.59	9,418.00
California Packing Corp.	70	28.43	8,586.00
Knight, L. Company	25	28.24	8,641.00
Pollock, R. W.	60	28.13	9,981.00
Best, Dan G.	158	27.95	8,972.00
Martinez, M.	9	27.90	7,589.00
Krehe, F. J.	69	27.88	7,946.00
Orrick, O. O.	50	27.78	9,006.00
Ramirez, Juan	42	27.60	9,456.00
Criste, Rosalind G.	10	27.55	9,042.00
Oji, Henry M.	80	27.50	6,925.00
Smith, Van	113	27.44	9,033.00
Dixon Dryer Company	36	27.33	8,789.00
Strehle, Catherine & Sons	21	27.31	8,401.00
Gill Brothers	15	27.29	7,876.00
Storz, C. F.	15	27.19	8,108.00
Anchita, M.	49	27.12	8,917.00
Reel, A. L.	25	27.07	8,316.00
McDonald, W. A.	139	27.06	9,190.00
Bender, Fred	43	26.96	9,188.00
Moore, Allen	172	26.88	7,747.00
Ullrich, E. M.	35	26.71	7,778.00
Morris Brothers	150	26.66	8,238.00
Dela Torres, Frank	50	26.62	8,790.00
Nakagawa Brothers	19	26.61	8,160.00
Meek & LeMaitre	188	26.52	8,858.00
Dixon Ridge Farms	142	26.37	9,024.00
Dela Torres, Frank	50	26.36	7,982.00
Robertson, Albert	77	26.21	8,623.00
Olson, E. M.	75	26.16	6,927.00
Mace, C. Bruce	52	26.14	7,967.00
Dyer, Frank	109	26.09	8,312.00
Meneley, Leo	42	25.93	7,784.00
Lum & Leong	50	25.88	8,106.00
Burke, T. L.	74	25.85	8,660.00
Heidrick Brothers	47	25.67	8,050.00
Silva, W. & J.	67	25.67	7,588.00
Strehle, Catherine & Sons	35	25.53	8,057.00
Martinez M.	13	25.43	8,494.00
Whealey, Charles	42	25.28	7,908.00
Carden, M.	70	25.26	8,614.00
Strehle, Catherine & Sons	29	25.26	7,826.00
Struve, George	75	25.26	7,699.00
Avilla, M. B.	31	25.17	7,516.00
Blann, R. & Son	7	25.12	8,310.00
Jager, Harry	63	25.10	8,624.00
Newhall Land & Farming Company	140	25.09	7,050.00



HARVEST MANAGEMENT

(Continued from page 26)

accept—and what's more, the grower's cost of hauling tons of clods becomes prohibitive.

By continuing to harvest excessive dirt ("excessive" means anything over 10% dirt tare), the grower is increasing his hauling costs by a factor far greater than the tare percentage. This little table shows how steeply hauling costs rise as dirt tare increases:

Dirt Tare, %	0	10	20	30	40	50
Hauling Cost, %	100	111	125	143	167	200

We repeat—there is a limit to what the factories can accept. Beyond this limit, trash, dirt and poorly topped beets slow down the operation until you as a grower are the one who suffers.

HOW HARVEST MANAGEMENT HELPS

Management consists largely of anticipating trouble and stopping it before it happens. So the wise harvest manager will look at his beet field critically and ask the question: "where is trouble likely to start?"

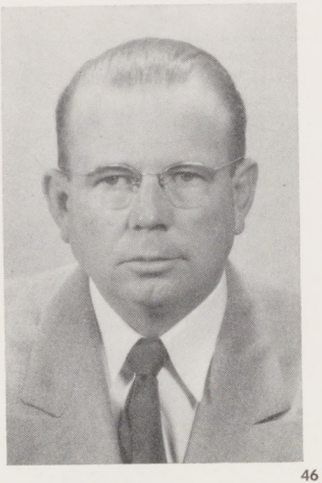
To answer that question, he will first appraise the weed and grass situation. If there are small patches of water grass which have choked out the beets, he will run his harvester over these patches with plows raised, or avoid them entirely, because the value of the few beets is less than the cost of recovering them. If there is an overall weed growth, bolters or excessive top growth, he will provide a defoliator for his spike-wheel harvester, or run over the field with a Rotobeater as many times as necessary to completely "bald head" all beets in preparation for his direct-loading or hand sorting harvester.

Next he will appraise soil condition. If his soil is rock-hard, he will not consider the use of a direct loading harvester, but will either resort to hand sorting or to a spike-wheel or top-lifting type of harvester in order to avoid "harvesting" too many clods.

Finally, when harvest starts, he will adjust his topping device to do a proper job. He will be tempted to say "I'll leave a little green on every beet—I am docked for tare, but I get paid for more tons of beets". But he's a smart manager, so he won't yield to this temptation, because it is to his advantage to keep the factory running without interruption, and nothing will slow down the factory more than badly topped beets, with attendant frequent knife changes.

Throughout the harvest the wise harvest manager will discuss his problems with his field superintendent He will watch his beets dumped at the receiving station occasionally, so that he may learn first hand how good a product he is delivering, and he will at all times take pride in his job of harvest supervision and in the profit that accrues from it.

AGRICULTURAL STAFF CHANGES AT SPRECKELS



46

J. BYRON LARSEN has taken over the duties of Agricultural Superintendent of the Salinas District.

FOLLOWING the retirement of William Paulsen on July 1, the position of Agricultural Superintendent of the Salinas District was filled by J. Byron Larsen.

Mr. Larsen attended Utah State Agricultural College at Logan, Utah.

He joined the Spreckels Company in 1935 at Manteca, where he maintained a supply of field labor for beet growers.

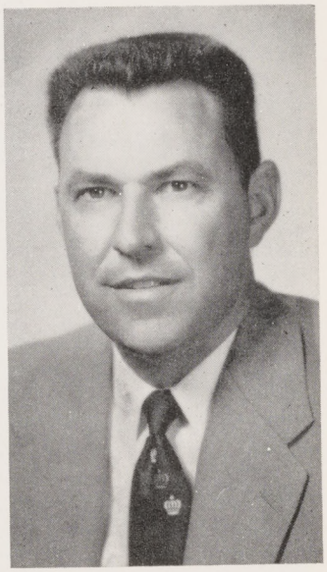
In 1936 he was transferred to King City as Superintendent of Spreckels Ranch 3. He held this position until 1942, when he was made Field Superintendent in charge of the King City area.

In 1948 he assumed the responsibilities of Assistant Agricultural Superintendent of the King City area, and in 1954 at Spreckels.

Byron Larsen's 20 years with Spreckels Sugar Company carry on a family tradition; Byron's father, John C. Larsen, spent 36 years in sugar beet agriculture, the last 18 of them with Spreckels Sugar Company.

Another newcomer to the Agricultural office at Spreckels is John M. Kendrick, Assistant District Manager. A graduate of the University of California College of Agriculture, Mr. Kendrick joined Spreckels Sugar Company in 1947 as Field Superintendent working in the Woodland area. From 1952 to 1955 he was Assistant to the General Agriculturist at the San Francisco office.

During part of this period he was in charge of dried pulp sales. For the past year, Loyd Stovall has been manager of dried pulp sales.



Moulin Photo 47

JOHN M. KENDRICK

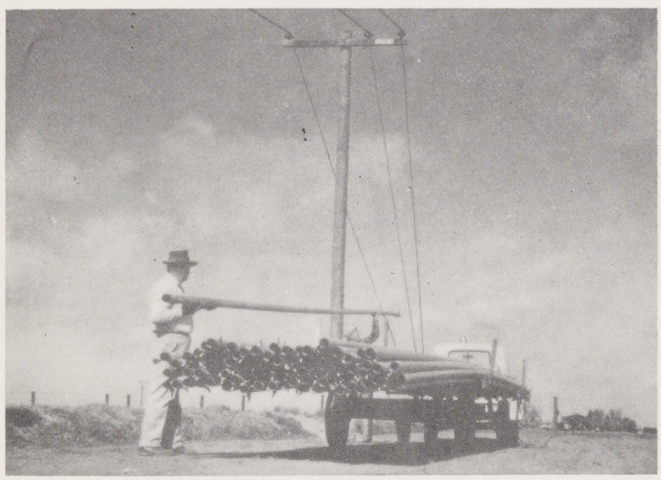
"LOOK UP AND LIVE"

By G. E. HERSAM
Pacific Gas and Electric Company

THIS FOUR WORD slogan is the theme of a safety campaign in a joint operation with the Pacific Gas and Electric Company and the State of California, Department of Industrial Safety. Too many people are losing their lives or are being injured by forgetfulness or carelessness. The failure to LOOK UP before moving objects near power lines is the prime reason for such accidents.

The six principal careless practices involve the handling of portable irrigation pipe, television antennas, cranes, well-drilling rigs, hay derricks and nut harvesting poles. Others that contribute to accidents from carelessness are flying kites and model airplanes, the use of spray rigs and construction or painting scaffolding.

Television antennas near power lines are a major source of danger. They are made of metal—a conductor of electricity. If the antenna is blown down or strikes a power line, electricity can be carried down the side of your home right into your TV set. Instantly a fire, personal injury and even death can result. If, by falling or swinging, your TV antenna should come within six feet of a power line you are risking a fire in your home or serious injury, and also are violating the state law which prohibits any object from being within six feet of a high voltage overhead line.



Pacific Gas & Electric Co. Photos 48

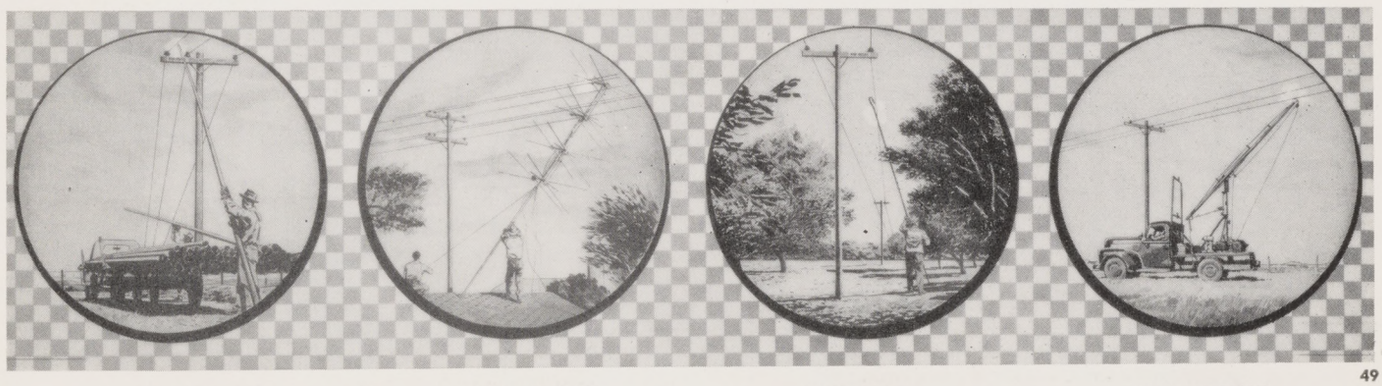
TEN SECONDS before death — if that length of irrigation pipe should be up-ended and touch one of the high tension lines.

Portable irrigation pipe should never be up-ended to shake out sand or other debris unless you first LOOK UP to determine if power lines are overhead. Investigation of accidents involving overhead power lines has shown that often the workmen were originally aware of the overhead power lines but just forgot to keep them in mind and allowed their equipment to come in contact with them.

When you move or use any equipment that can extend more than a few feet off the ground, first inspect the route you plan to travel and the area where you'll work. If your equipment might come anywhere near an electric line notify your power company—well in advance—so that, if necessary, the line can be de-energized, raised or rerouted. Don't take a chance and above all things, don't attempt to raise the power lines for any reason. Tie down booms or swinging parts when transporting equipment. Allow for bouncing caused by uneven ground. If a wire is down, never—under any conditions—try to pick it up.

The widely enforced California law provides that an employer as well as employee is responsible when equipment is operated within six feet of overhead power lines. But a fine or a jail sentence cannot restore a life.

Whoever you are—wherever you work—if you have any equipment that reaches into the air—Remember power lines are overhead—Remember the slogan **"LOOK UP AND LIVE".**



49

IRRIGATION PIPE TV ANTENNAS NUT POLES HAY DERRICKS

THESE ARE some examples of accidents which can happen on farms when workers fail to LOOK UP AND LIVE.

YOU CAN EAT IT, TOO

By JOHN L. HICKSON*

THE SUGAR RESEARCH Foundation led by our president, Dr. H. B. Hass, has two prime directives to guide our program. In order to gain maximum benefits for the members of the sugar industry, first, the results of our research must be useful and second, the products of our research must consume significant amounts of sugar. With these criteria before us, a multi-sided program has evolved.

In the laboratories of Foster D. Snell, Inc., in New York, our newest baby has come to life. Sugar has been combined with fat and there has issued a new class of detergents. These sugar-esters are expected to be of world-wide interest.

The esters should be useful in toothpastes, for they have no offensive taste to be masked. They should be useful in shampoos, for they do not sting the eyes. They should be useful in shaving creams, and toilet and bath bars, for they have not irritated the most sensitive skins, nor will they form a ring in a bathtub.

They should be useful in dishwashing and laundry, for they will compete in price with the most economical cleansers, and yet they are mild and gentle on the hands of the housewife. They may be useful in recovering oil from spent oil sands, in washing the toxic spray residues from vegetables and fruits, and a dozen other ways.

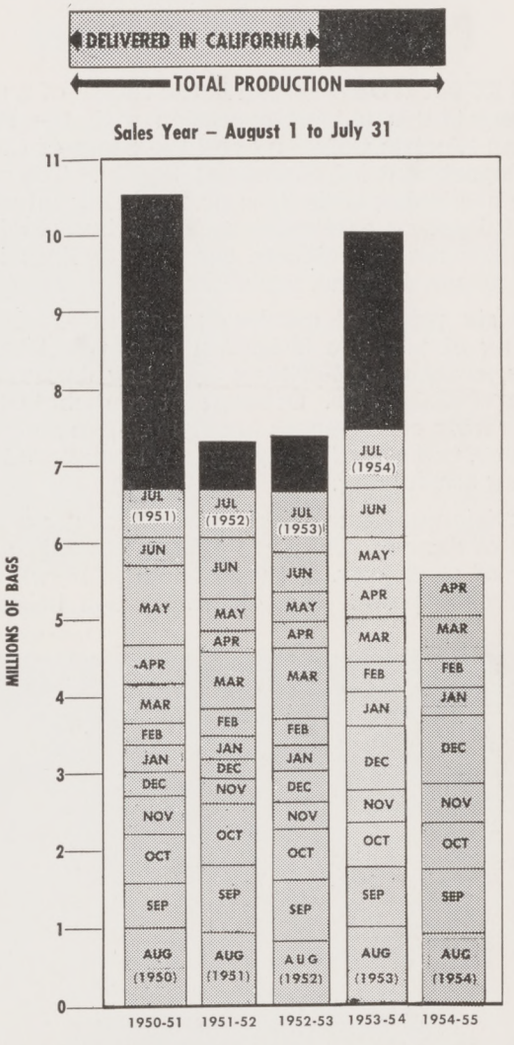
The detergent industry out-paced the soap industry last year, producing more than 2 billion pounds. We fully expect that the sucrose-esters will take over a major part of this business. Interest is keen among the more than 80 companies, including the major soap and detergent producers, who have been following our research progress. Food processers, pharmaceutical manufacturers and compounders of detergents are asking for samples.

To meet this need, we have arranged to have a quarter ton lot of a sucrose-ester detergent manufactured and worked up into bars.

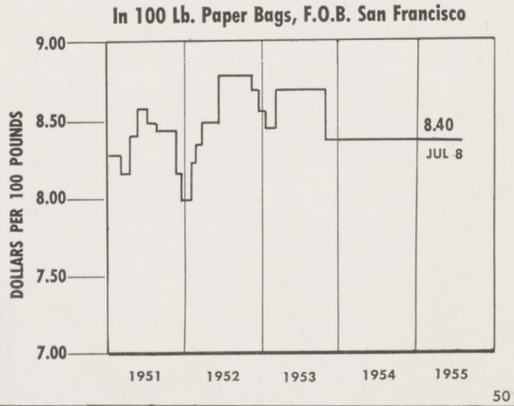
In summary, let me say that, if we have our way at the Sugar Research Foundation, one day you will wear sugar, wash with sugar, use sugar in plastics and in paints, spray it on your plants, feed it to your animals and in addition, you can eat it, too!

*Extracts from an address by Dr. John L. Hickson, Assistant to the President, Sugar Research Foundation, Inc., at the California Field Crops Technical Conference, Santa Barbara, California, February 26, 1955.

PRODUCTION AND DELIVERIES OF BEET SUGAR IN CALIFORNIA



QUOTED PRICE OF BEET GRANULATED SUGAR



The SPRECKELS SUGAR BEET BULLETIN is issued bi-monthly by the Agricultural Department of the Spreckels Sugar Company as a service to its growers.
Mention of specific methods, devices and implements does not constitute an endorsement by the Company.
All photographs by the editor unless otherwise indicated.
AUSTIN ARMER, Editor SPRECKELS SUGAR COMPANY WOODLAND, CALIFORNIA

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SPRECKELS SUGAR BEET BULLETIN

Nov 14 '55



51

IS THIS YOUR FIELD?

If so, destroy this weed. It is a wild beet, capable of reproducing itself annually.

It has become a threat to field crops in general and sugar beets in particular. See page 34.

Vol. 19 SEPTEMBER-OCTOBER, 1955 No. 5
PUBLISHED FOR CALIFORNIA SUGAR BEET GROWERS BY THE SPRECKELS SUGAR COMPANY

WE FACE A NEW WEED PROBLEM

R. T. JOHNSON
Director of Agricultural Research, Spreckels Sugar Co.

FOR SEVERAL years it has been known that some locations in the beet growing areas of California have been infested with a weed which is actually an annual beet. In some places this infestation has become so severe as to prohibit the successful growing of sugar beets. The reason these annual beets may present such a problem to sugar beet growers is that if the land is foul with seed from these beets at the time of seeding sugar beets, they emerge at the same time and thinners cannot distinguish between the annuals and the seeded beets. Consequently, many of the annuals are left as beets at thinning time and a few weeks later, instead of continuing to develop a root, they begin to send up a seed stalk. Satisfactory roots are never developed from these annuals.

Fortunately, these annuals constitute only a very small part or none of the bolted beets, or beets with seed stalks, in most commercial beet fields.

The normal sugar beet is a biennial—in California climates, it can produce seed only if irrigated through the first summer of its life.

But by chance, some of the flowers on a bolting sugar beet may become pollinated from nearby bolting red beets or Swiss chard. Other flowers may be self-pollinated. The seed so produced will produce plants with little resemblance to sugar beets, but with a tremendous reproductive vigor.

When these seeds are germinated by winter rains, large numbers of seedlings emerge, and some will produce viable seed the same year. These few individuals survive the summer drought, and become the ancestors of a well-established population of annual weeds which can survive under wild conditions, without benefit of summer irrigation.

In clean cultivated crops, this is not likely to become too serious a problem but where the problem can persist, sometimes unnoticed, is along fence rows, ditch banks, highway and railroad rights of way and in some fields such as pasture and alfalfa which cannot be kept clean cultivated.

Mowing of alfalfa fields or highway shoulders does not kill annual beets—they send out creeping seed stalks that hug the ground. These areas offer a constant source for contamination of fields to be seeded to sugar beets. In addition, beets in areas such as these harbor insects and diseases that are always ready to move out into commercial beet fields.

About two years ago this problem first became of enough concern to devote an article in the Spreckels Sugar Beet Bulletin to some of the dangers of the problem and suggesting some methods of control. Now it would appear that the problem, instead of becoming less in intensity, is becoming steadily even more widespread. It seems that each year the areas where these annual beets exist become larger and new areas are found where they have become established. This slow, steady, creeping nature of the problem is probably the main reason why it might well be considered not serious or overlooked entirely. In its early stages it is neither so dramatic nor the results so dire as a sudden outbreak in epidemic proportions of a disease such as curly top or leaf spot, but it seems the end result could be equally or more serious. When and if the time comes that land cannot be satisfactorily planted to sugar beets because of the heavy infestation of volunteer annual beets, the result will be as serious as any disease problem we have had. This is not a particularly bright prospect but it could become a reality if something is not done to arrest the problem.

In its present status, probably one of the most effective initial steps in control is to make beet growers aware of the problem and what the end result may be. In traveling around the beet fields and ranches, in general, it might be well to observe



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GOING-GOING-GONE.

1—A harmless volunteer sugar beet, a generation removed from a self-pollinated commercial sugar beet bolter.

2—A worthless "nephew" of No. 1—by regression or cross pollination from red beet or swiss chard.

3—A vicious wild annual beet of undeterminable ancestry; a prolific producer of seed that germinates and survives under the most adverse conditions.



53

WILD BEETS (W,W,W) have become a familiar member of the big family of roadside and ditchbank weeds in California.



54

THEY GROW ANYWHERE—here are wild beets growing in a vacant lot right in downtown Davis.



55

THE PENALTY. Wild annual beet seed infested the ground of this beet field—volunteered everywhere; was cultivated out EXCEPT in the planted rows; germinated; was left as healthy seedlings by the thinners, and matured into worthless bolters with no usable roots.

more closely the ditch banks and fence rows to see if some of the weeds growing in such places are annual beets. If they are, it would be well to have irrigators or weeders remove them. In one commercial beet field in the Woodland District this year one grower found it necessary to destroy a small acreage of beets because of the extremely high percentage of these volunteers in certain portions of his field. It is true that the acreage lost was not great, but the value of the crop that should have grown in the acreage destroyed is considerably more than it would have cost to remove the volunteer seeders that undoubtedly were in the field for the previous few years. This is just one example. There will probably be others in the coming years if something is not done now.

Some state and county agencies have now voiced interest in the problem and are making a study of control methods on state and county owned land to see which controls offer the most promise of eradication. The purpose of this article is to point out a problem that is now serious in some areas and could well become serious in others, and to make more people aware that a problem exists. It is hoped that through the cooperative efforts of all the agencies and individuals involved this problem can be arrested and even eliminated as a potential threat to some sugar beet growing areas in the state of California.

STATE ENTOMOLOGIST RETIRES



56

HORACE M. ARMITAGE

HORACE M. ARMITAGE completed 43 years of service to California agriculture when he retired on September 28. He was Chief of the Bureau of Entomology, California State Department of Agriculture, and is well known to all California sugar beet growers as a leader in the control of the sugar beet leafhopper which carries the curly-top virus.

Born in Butte, Mont., and educated in Corona, California, he started his career with appointment as San Diego County horticultural inspector in 1913 and became San Diego County horticultural commissioner in 1915.

It is probable that growers of every crop in the state are indebted to Mr. Armitage for the solution of insect problems affecting their particular crops. He has planned and carried out eradication measures directed against the grapeleaf skeletonizer in San Diego County; the Mexican bean beetle in Ventura County; the citrus white fly in Orange, Los Angeles, Fresno, Madera and San Benito Counties; the cherry fruit fly in Siskiyou County, and Hall's scale in cooperation with United States Department of Agriculture in Yolo and Butte Counties.

He also has carried out protective measures designed to prevent spread of the Mexican fruit fly into California from Lower California.

In 1949, Armitage acted as technical adviser to a subcommittee of the state legislature's joint interim committee on agriculture and livestock problems visiting the Hawaiian Islands to review the Oriental fruit fly problem as it concerned California's fruit industry.

He is a member of the American Association for the Advancement of Science, past president and member of the Pacific Coast Entomological Society, and member of various state entomology clubs.

He is the author of a large number of articles on subjects pertaining to his activities. These papers have appeared in bulletins of the department, the University of California and the USDA, and his reports on the fight against the beet leaf hopper have appeared in past issues of Spreckels Sugar Beet Bulletin.

MEET NANCY HAVEN

By LEROY V. GOODMAN
Regional Manager
Western Beet Sugar Producers, Inc.

ONE RECENT Monday morning as Nancy Haven was whizzing along Highway 99 she had a flat tire. This was the only sour note she struck that week or any other during the otherwise harmonious months she has been singing the praises of beet sugar.

Nancy Haven, in case the name fails to ring a bell, is regional home economist for the Western Beet Sugar Producers, Inc. Actually, "Nancy Haven" is the trade name for all WBSP home economists and is comparable to, for instance, "Betty Crocker." in private life the Nancy Haven assigned to the California-Arizona-Nevada region is Phyllis Kuckuck — pronounced, appropriately enough, "cook-cook."



George R. Wheeler photo—57

NANCY HAVEN'S appearances are news, as witness this photo which ran five columns wide in the San Rafael INDEPENDENT-JOURNAL when she demonstrated beet sugar cookery before home economics classes at San Rafael High School.



NANCY HAVEN knows her sugar beets, too. Lloyd Eveland, Woodland sugar beet grower, reveals the source of the sugar she praises.

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Nancy is on the road almost constantly, demonstrating use of beet sugar at club meetings, in schools, on radio and TV, before extension groups and the like. On the day she had the flat tire she was en route to Fresno.

A chivalrous motorist stopped and gave her a hand, in return for which he received a pep talk about the high quality of beet sugar and a full set of Nancy Haven recipe booklets.*

Her cheerfulness restored by having made another convert to beet sugar, Miss Haven proceeded to Fresno. There she telephoned a number of people (editors, school principals and the like), got set up in a hotel room, and made four cakes.

Tuesday morning she had a radio interview and that afternoon she appeared on KMJ-TV decorating the cakes she had made the previous afternoon. On Wednesday, as the newspapers duly noted, she spoke to classes at Fresno Junior College in the morning, and at Edison High School in the afternoon.

These classroom demonstrations, incidentally, last precisely 47½ minutes. On Thursday she gave them one right after the other, throughout the day, at Roosevelt High School.

On Friday she had two separate radio interviews in the morning, on stations KFRE and KARM, and did a series of demonstrations at Fresno High in the afternoon.

The following Monday she pulled into San Jose. In the course of that and the succeeding four days, she addressed a professional meeting of home economists, appeared on one radio and two TV programs, toured a beet sugar factory and gave a full day of demonstrations at Salinas Junior College.

So Nancy Haven's weeks go. In the six months the Los Angeles office of the WBSP has been opened, she has made an average of one radio and one TV appearance each week. Her comments about beet sugar have appeared in newspapers throughout the state. She has demonstrated beet sugar cookery before thousands of high school and junior college girls and before many additional hundreds of men and women in clubs, service organizations and other groups.

Requests for Nancy Haven recipe booklets resulting from these appearances and other WBSP activities have resulted in mailings of as high as 2700 per week, one week after another. A single TV appearance is likely to draw about 1200 letters and post cards. Many women writing in simply request the

*You, too, may get these booklets by writing to Nancy Haven, Western Beet Sugar Producers Inc., 650 So. Grand Ave., Los Angeles 17, Calif. Titles include: "Fashions in Frostings," "The Way of All Cookies," "Just Desserts," "Well Preserved," "Candy and How," "Answers by the Canning Doctor," "Teens Favorite Fudge," "Bing Cherry Pickles."

RUSSIAN FARM DELEGATION STUDIES SUGAR BEET GROWING

ED THOMING grows beets for Spreckels Sugar Company on his ranch between Tracy and Vernalis. On August 17th, Ed was host to the ten Russian Agricultural officials, two members of the Russian Press and about 100 members of our own press, radio and TV.

This Russian agricultural delegation toured the United States through an arrangement whereby a dozen American farmers reciprocated with a tour through Russia's agricultural areas.

Though none of the visitors spoke English and all communication was through an interpreter, the interpreter made it clear that those of us answering questions of the delegation members were to offer no information except answers to their questions. Furthermore we were instructed not to ask any questions about Russia because time did not permit.

The questions they asked were extremely intelligent, and the answers they got must inevitably have given a good deal more information than merely statistical data.

Mr. Vladimir V. Matskevich is first deputy minister of agriculture of Russia. He was the leader of the group and their spokesman; he is affable, smiling, yet holds a position of tremendous responsibility. None of us were able to get any inkling of the impressions received by members of the delegation of the tremendously diverse agriculture of California; nor were we able to get any idea of the response to what must have been vast differences between Russian and California agriculture.

Unquestionably the exchange of agricultural delegations between the two countries is a valuable move in maintaining understanding between the people of the two countries. It is a small beginning; only twelve Russians and twelve Americans have become informed by factual observation. But it is a good beginning, and it is significant that the two countries chose farmers as their ambassadors of good will.



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PETR NIKOLAEVICH SVECHNIKOV (left), chairman of a Russian Collective Farm, and Ed Thoming agree on the virtues of sugar beets.



Dwight Worsham photo—60

THE RUSSIAN Farm Delegation and members of the press watch Ed Thoming's Marbeet Jr. start his 1955 beet harvest.

booklet Nancy has offered, but others are more stirred.

A lady in the Sacramento Valley, for instance, wrote: "I use beet sugar now for cakes and candies and for cake frostings. I've also told my girl friends about beet sugar and they are now using it and think it is wonderful."

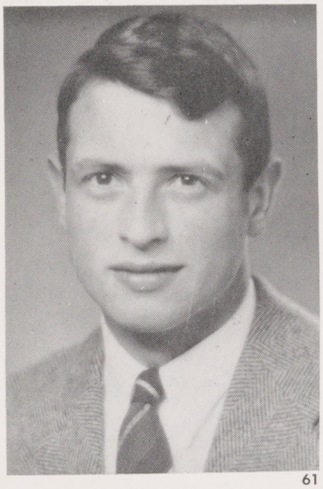
A San Joaquin Valley housewife wrote: "Today for the first time in my 35 years of housekeeping have I asked for beet sugar at my grocers and I'll continue to do so."

At the same time Nancy Haven is carrying the beet sugar message to the far corners of California, Arizona and Nevada, and the other two members of the regional staff are busy too. These are Carla Royce, the office secretary, and the writer, who bears the title Regional Manager.

Office routine inevitably occupies much of our time—the mailing of press releases, for instance, has averaged over 500 per week.

We distribute the film SUGAR U.S.A. (available upon request to the Los Angeles office, by the way). This not only involves sending out prints but also arranging for showings. In connection with the latter effort we have mailed or are mailing letters to every service club, every junior college and university and every home economics teacher in our region inviting them to show the film. *(Continued on next page)*

SUGAR BEET SPECIALIST APPOINTED AT UNIVERSITY OF CALIFORNIA



ROBERT S. LOOMIS

ROBERT S. LOOMIS, a graduate of the University of Wisconsin, has accepted an appointment in the Department of Agronomy at Davis effective February 1 to undertake research on sugar beets. He will replace Dr. David Ririe who resigned July 1, 1955 to accept a call from the Church of Latter Day Saints in New Zealand.

Mr. Loomis graduated from Iowa State College with a Bachelor of Science Degree in 1949. Two years later he completed the Master's Degree in Plant Physiology at Madison, Wisconsin. From 1951 to 1953 he served as a First Lieutenant in the United States Air Force Research Center at Cambridge, Massachusetts. He returned to Madison after his tour of duty in the Air Force to complete the Doctor's Degree in Plant Physiology.

In addition to his research on sugar beets, Mr. Loomis will be teaching in the Department of Agronomy. He is married and has one child.

NANCY HAVEN

(Continued from Page 37)

There are radio and TV scripts to write, publicity stories for Nancy Haven, background pieces telling editors what the proposed sugar legislation is all about. There is research to be done for magazine writers. There are news releases to write—an average of four per week since the office was opened. Some of these news releases, incidentally, centered around visits Nancy Haven paid to the growing areas and one dealt with a particularly instructive visit to the factory at Woodland. Others concern the harvests, technological meetings, conventions and the like.

Via Nancy Haven and our efforts at the regional office, we are saying these things: The beet sugar industry is highly efficient and progressive. The beet sugar industry makes an enormous economic contribution to the local community and to the state. And above all, beet sugar is the best sugar money can buy.

We feel that by conveying this information—by revealing the beet sugar industry for the splendid enterprise it is—we will enlarge upon the public confidence and support we already enjoy in the beet growing areas.

The WBSP effort to date has been exhilarating and judging from our reception, profitable. And we have just begun.

Notes From Our Field Men

Field Superintendents report items of unusual interest so that others on the agricultural staff will have the benefit of their findings.

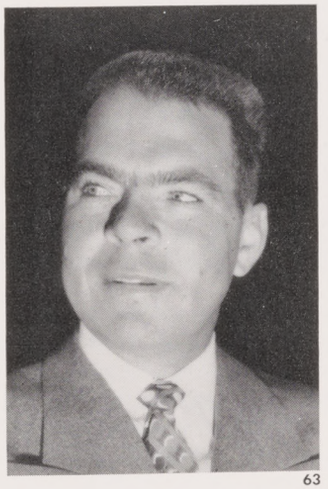
These columns will, from time to time, report those items which seem to be of direct value to sugar beet growers.



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H. W. PARKER, King City

"A beet grower in my district, after two years of drying and baling his beet tops following his hand crew topping operation, assures me that he makes $65.00 per acre net profit from the tops. He had fed quite a lot of them to his own cattle and is very well satisfied with the results in gain, and the condition of the feeders. He figures he could sell many times the amount that he does, because all of the feeders to whom he has sold so far continue to ask for more. If the price of alfalfa hay stays as high as it is now, he should be able to sell almost any amount of it at $20.00 to $25.00 per ton."



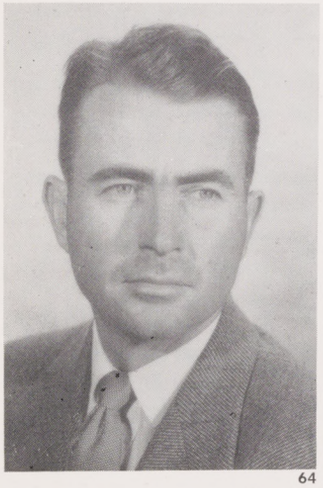
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HAROLD VOTH, Spreckels

"A beet grower and dairyman in the Soledad area, believes he has an answer to the proper utilization of sugar beet tops. For the past several years he has been baling his tops. Last year he realized 150 tons of dry tops from 60 acres and he considers this finished product superior to alfalfa hay. Using his own pickup baler he figures it cost him $4.00 per ton for baling, and $3.00 per ton for preparing and handling the tops before baling, making a total expense of $7.00 per ton.

"The first step in the procedure of top preparation is the windrowing of tops by the Marbeet harvester. Great care is exercised to see that the beet trucks keep off the windrowed tops. After some drying the tops are rolled over with a side-delivery rake so that all the tops can be properly dried. Next a disc followed by a toothed roller is run between the windrows to smooth the ground as much as possible. After sufficient drying the tops are raked back into

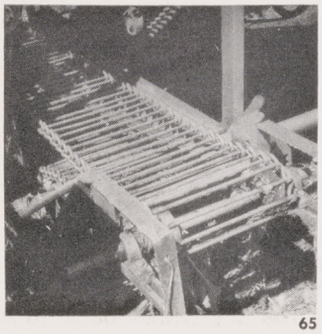
the disked area and are then allowed to remain until properly cured and ready for baling. Time required for proper curing depends on the prevailing weather conditions; however, curing must be watched carefully, because improper curing will result in molding or spoilage of the finished product."


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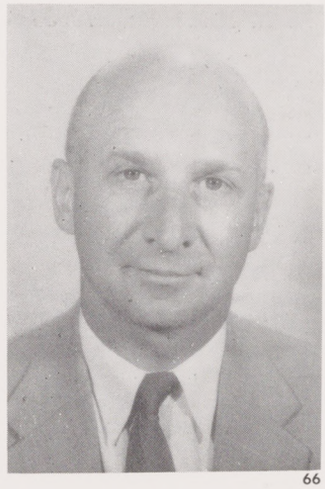
JOHN W. BRYAN
Walnut Grove

"I feel strongly that most growers do not irrigate often enough for maximum growth. The amount of water necessary to meet the sub-moisture varies with soil type. In the Delta with the high water table it may require only one or two inches; however, evaporation is high and frequent irrigations are necessary to maintain moisture in the top two feet of soil, especially until the tops cover the row.

"One of the major costs of sugar beet production in the Delta is hoeing. It is this item which most frequently reduces the grower's profit from the crop, and yet it is one which lends itself to control. General weed control is difficult because of the many levees and ditch banks where weed seeds originate. However, within a field most weeds can be handled if the proper equipment is available and used at the right time. In the majority of cases, stands emerge fairly clean and it is at this point that cost control of hoeing begins. 'Put a thinner on a straight, narrow ribbon of beets and small weeds and he'll do you a good job.' Conversely, if the cultivated strip is not narrow and the weeds are large, costs go up. Thinning prices in an area are fairly standard, but hoeing bills depend upon the grower. Frequent and accurate cultivation, and the right timing of the hoeing operation so as to get on the weeds when they are small and visible keep costs down. Even perennials, such as Johnson grass, water grass (provided it doesn't come late), kelp, and nut grass can be held down with a good rotary cultivator until the crop is well sized. But with a poor cultivation job, even easily killed annuals are expensive to take out with a hoe."


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POTATO CHAIN foliage conveyor on a 2-row Marbeet harvester.


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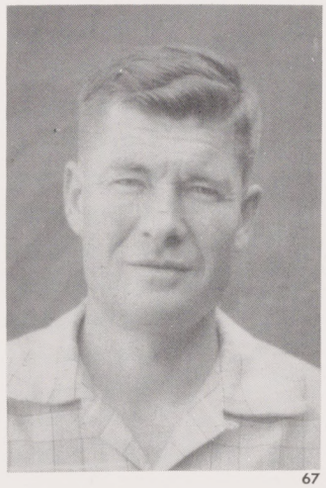
W. B. MARCUM, Woodland

"There has been more scalding of beets this year than I have seen for thirteen years. Although there has been comparatively little hot weather, many growers let their fields get fairly dry before starting their first irrigation. Water held on fields in this condition can, in the heavier soils, produce areas of scalded beets very easily in moderately warm or hot days.

"In obtaining information on fertilizer usage we derived the following information for my district:

Ammonia gas	2600 acres	Av. 136 lbs. of N/ac.
Liquid nitrogen	1135 acres	Av. 138 lbs. of N/ac.
Granulated nitrate	1511 acres	Av. 126 lbs. of N/ac.

"In recent years there has been a strong trend toward the application of ammonia gas by the side dress method. Last year, and even more this year, the trend is toward liquid nitrogen. This is partially due to strong competition being put up by liquid nitrogen dealers, partly to price, and partly to the availability of commercial applicators for this material."


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JOHN O. NIELSEN
Sacramento Yard

"A modification that has been made by several owners of 2 Row Marbeet Harvesters is using potato chain in place of the foliage conveyor, or 'trash' belt. Some of the advantages claimed are:

1. Eliminating breakdowns due to dirt building up under the trash belt, causing stretched and torn belts, side wear, ripped out lacing, etc.
2. Screening clods and dirt from beet tops.
3. Lower original cost.
4. Cheaper maintenance and replacement costs.

"A local harvesting contractor, said recently that he has been using this system for about two years. The interesting part of it is that he uses smooth rubber-faced wheels (such as are made for hand trucks) instead of sprockets to drive his potato chain. Of course, the chain must be kept fairly tight, but it eliminates the excessive wear between sprockets and links. These wheels are 6″ in diameter and about 1½″ width across the face. Marbeet Midget potato chain is used, being about the same overall width as the 18″ belt."

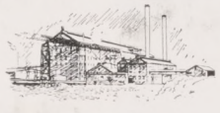


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D. R. HEFNER, Woodland

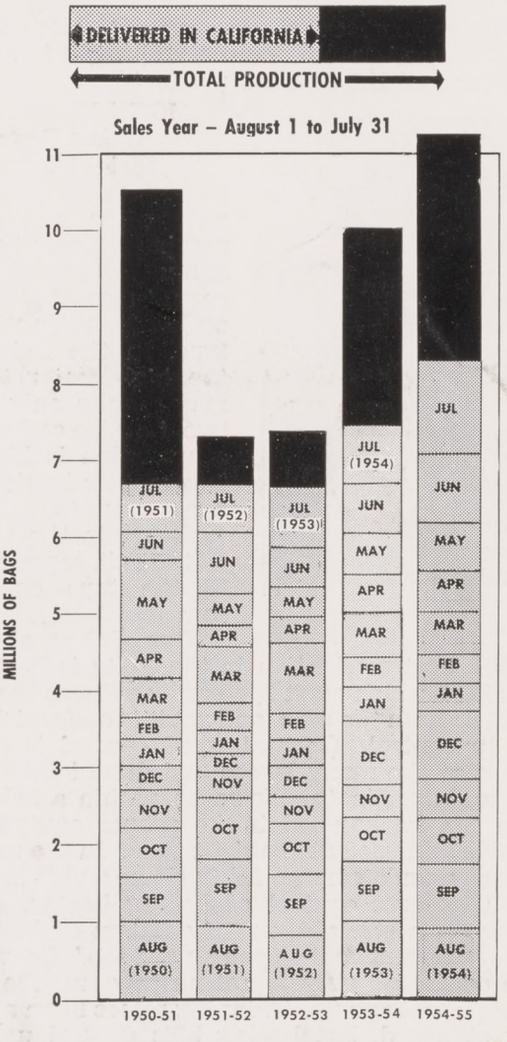
"In the past several weeks I have noticed a great deal of red spider damage in fields which receive dusts from nearby roads. We know that a dusty condition is conducive to the spread of mites and I wonder if the damage is not monetarily a lot more than the cost of a water wagon and the watering of the roads. I don't think many growers associate beets and red spider damage, but I believe that if the facts were known, growers should be controlling the insect with an insecticide. I have noticed that wherever I find a heavy infestation I can look for low sugar in that field. I am now working with a fieldman from one of the chemical companies in the control of red spider and am going to watch the results between controlled and non-controlled areas. Samples will be taken from these different areas through the next several weeks and reported on later."



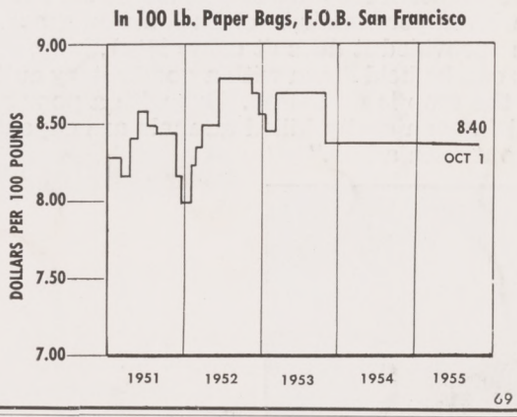




PRODUCTION AND DELIVERIES OF BEET SUGAR IN CALIFORNIA



QUOTED PRICE OF BEET GRANULATED SUGAR



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The SPRECKELS SUGAR BEET BULLETIN is issued bi-monthly by the Agricultural Department of the Spreckels Sugar Company as a service to its growers.
Mention of specific methods, devices and implements does not constitute an endorsement by the Company.
All photographs by the editor unless otherwise indicated.
AUSTIN ARMER, Editor SPRECKELS SUGAR COMPANY WOODLAND, CALIFORNIA

DEC 3 0 '56

SPRECKELS SUGAR BEET BULLETIN



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BEET HANDLING

has been speeded up at all Spreckels factories, along with other important improvements. Growers benefit from

FASTER BEET UNLOADING
HIGHER DAILY DELIVERIES

Capital additions to all three Spreckels factories totalled close to a million dollars in 1955.

Vol. 19 NOVEMBER-DECEMBER, 1955 No. 6
PUBLISHED FOR CALIFORNIA SUGAR BEET GROWERS BY THE SPRECKELS SUGAR COMPANY



SPRECKELS FACTORY IMPROVEMENTS INCREASE EFFICIENCY

ALL THREE Spreckels factories entered the 1955 campaign with a variety of major improvements to operating efficiency. All these capital additions cost the Company just under one million dollars—an expenditure calculated to provide many advantages to growers in addition to improved factory performance.

G. W. Miles, Jr., Superintendent of Factory 1 at Spreckels, reports:

"During the past year Factory 1 has continued to make improvements that benefit our operations, improve the final product, reduce losses.

Some of these improvements are:

1. Beet Receiving Station improvements to reduce beet breakage and further clean the trash from the beets.
2. Improvements to factory condensers and water system to reduce water and power consumption.
3. New Hot Saccharate Vacuum filters to improve saccharate quality and sugar yield.
4. Increased heating surface on continuous diffuser to improve sugar recovery from beets.
5. New calandria section for one of the White Sugar Vacuum Pans to improve sugar yield and quality.
6. Removal of the center ring of coils in the remaining coil pans to improve sugar yield and quality.
7. New and improved product packaging equipment.

"Our operations this campaign have suffered somewhat from:

1. Low purity beets.
2. Excessive amounts of weeds, dirt, trash and alfalfa roots.
3. Large quantity of old dead beet tops which are both adhering to the semi-topped beets and are loose in the beets delivered.

"In spite of the above difficulties, we have experienced a fairly even operation and have benefited from a well regulated harvest. Both of which indicate that the grower and the company have cooperated closely to improve the overall operations."

Factory 2, at Manteca, shows even greater outward evidence of the improvement program, because the entire beet receiving facility has been replaced. This involved a new truck hopper, car dump, beet storage slab and a complete beet handling system. The cost exceeded $340,000.00.

A. A. Norman, Superintendent of the Manteca Factory, says:

"Factory 2 at Manteca has come a long way since it was built in 1917. The original plant provided for 1000 tons per day factory operations and a maximum of 3000 tons of beet storage with all bins full. With the constantly increasing rate of slice and consequent increase in beets delivered, the receiving and storage facilities of necessity had to be expanded to meet the factory's present capacity of 2300 tons per day. This year, 1955, saw the installation of receiving and storage facilities of the most modern design and capable of meeting all demands for the forseeable future.

"We at Factory 2 are proud of this installation and in it we feel we have the means to offer our growers in-and-out service unsurpassed anywhere in the industry.

"This season's beets were of low purity and contained unusual quantities of rot. Even with a well-regulated harvest providing minimum delay between harvest and processing the beets deteriorated rapidly before they could be sliced. This appreciably reduced the slicing capacity of the factory."

Factory 3, Woodland, was the scene of some major additions. Most impressive is the new steam generator. Following modern design trends, this unit is installed out of doors—only the controls are indoors.

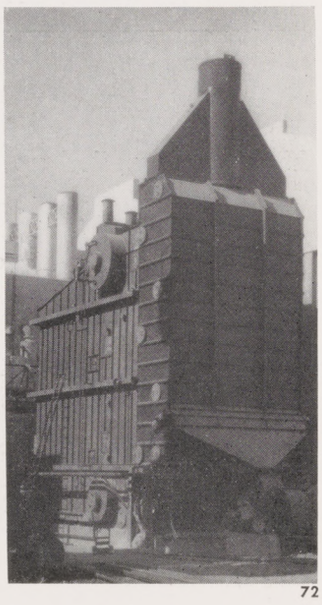
Ira Resch, Factory Superintendent at Woodland, comments:

"Capital improvements at Factory 3 during 1955 were impressive. We added a third steam generator, rebuilt and modernized the crystalizers, and installed an additional Kelly filter.

"Beet receiving facilities remained unchanged, since their modernization had been completed in the recent past.

"The removal of trash and foreign material from beets delivered to the factory is a major problem in operations. The initial screening at the Receiving Station removes a large quantity of the loose dirt and trash before the beets enter the storage bins or flumes, but lacks considerable of being a complete removal when exceptionally trashy loads are received. In extreme cases dirty beets have reduced the capacity of the factory to two thirds of normal. During periods when the harvest quotas are limited to the factory slice, this would mean a reduction in harvest of 1000 tons of beets per day."

THE NEW steam generator at Woodland during construction. →



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THE COVER—beets at Manteca are loaded from pile to conveyor. One man moves 2300 tons a day.



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THE WILD BEET: A WARNING

By MURRAY R. PRYOR
Field Supervisor of Weed Control
California Department of Agriculture

A RECENT survey of the "wild beet" problem in the sugar beet growing areas of northern California indicates that the beet industry is faced with a serious weed problem unless early remedial action is taken. The annual or escape beet, the weed in question, mainly has evolved as a result of circumstances involving environmental conditions, failure to carry on good farming practices, and lack of proper farm management.

Sugar beet authorities report that in certain growing areas of California, particularly north of Manteca and in the Salinas-Hollister area, climatic conditions have favored the development and spread of the "wild beet." They point out that unseasonable cool periods during spring followed by warm weather provide natural influences which combine to produce bolting. The seed produced by the bolters are the forerunners of succeeding generations, many of which tend to bolt more readily through the influence of nature, and hence become annual or "wild beets." In areas of abundant rainfall and mild winter climate, the seed of these annuals germinate readily. Heavily contaminated fields, which are subsequently planted to sugar beets, present a serious weed problem, for at thinning time it is impossible to distinguish between the commercial and the "wild beet." Hence many commercial beets may be removed in the thinning process and the "wild beet" left. Obviously the identical appearance of the seedlings of the "wild beet" and the commercial beet constitutes a baffling problem and is an example which proves an ounce of prevention would have been worth a pound of cure. In a number of instances growers disced under their plantings or portions of fields, because of heavy infestations of "wild beets."



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THE AUTHOR and a wild beet plant—one of many infesting a tomato field near Woodland.

Recently the "wild beet" problem was brought to the attention of several official agricultural agencies by the Spreckels Sugar Company. In a meeting held at the Agricultural Commissioner's Office in Woodland, attended by representatives of Spreckels Sugar Company, the California Department of Agriculture, and the Yolo County Department of Agriculture, methods and procedures of solving the problem were discussed. It was the consensus of the group that more emphasis should be given to publicizing the potential danger of the "wild beet." The advisability of organized control programs was discussed, in anticipation of the time when community action may be required to cope with the problem.

WHAT PUBLIC AGENCIES CAN DO

In any organized program where public lands such as state and county roads are involved, the feeling was expressed that the respective official agencies in all probability would participate, provided all affected parties cooperated. Incidentally, it is provided in the Agricultural Code of California that the county agricultural commissioner may enter into a service agreement with the State Division of Highways to control weeds on state highway rights-of-way, provided the same weeds are controlled on adjoining lands. The agreement stipulates that the county be reimbursed by the State agency. Many of these service agreements are in force throughout the State. However, the weeds usually involve the "primary" or secondary" noxious weeds as classified under the California Seed Law. Counties may add to this list by county ordinance, but it is not a common practice. Not infrequently the county departments of agriculture, with the approval of their Board of Supervisors, adopt a county weed policy, which gives greater latitude in handling weed problems. The county weed policy may list, in addition to the two groups mentioned above, other weeds which locally have been declared a pest. The county weed policy should not be confused with the California Seed Law, which is a labeling law for agricultural and vegetable seed. From the legal standpoint it would be difficult to distinguish the "wild beet" from the domestic beet if it were added as a "noxious" weed to the California Seed Law. The enforcement of such a provision would require field trials to determine the variety. Furthermore, a seed labeling problem would not arise since sugar beet seed is produced by the industry and is not handled through ordinary commercial channels.

Alertness on the part of the grower to the "wild beet" problem can do much to turn back the invasion of this prodigal weed before it becomes established. Certainly in this case an ounce of prevention is worth a pound of cure. Much can be done through good farm management and greater attention to tenant farming practices. It is quite possible now to avoid the necessity of remedial action in the future and maintain current high level production of one of our best cash crops.

SPRECKELS ANSWERS A $100,000 QUESTION

By JAMES K. BROWN
Director of Public Relations
Spreckels Sugar Company

WHOSE FACE appears on a $2 bill?

Spreckels Sugar Company recently provided 50,000 answers to this question in its three factory towns. On one payday at each factory during the height of the 1955 fall campaign—October 20 at Manteca, October 25 at Spreckels and November 4 at Woodland—each employee at that factory received $50 of his semimonthly wages in $2 bills. With the combined work force of the three factories numbering about 2,000, some $100,000 in $2 bills were distributed on these special paydays.

PURPOSE OF THE $2-BILL PAYDAYS

The purpose of the $2-bill paydays was to provide a convincing illustration of the importance of the company's payroll to the economies of these three communities, and thus of the importance of each community's residents supporting Spreckels by purchasing its products. These paydays were a part of the intensive factory area sales promotion Spreckels began last summer.

Why were $2 bills used? According to John A. Beckett, company treasurer, "$2 bills were decided upon because, like silver dollars, they are sufficiently rare in northern California so that they would surely be noticed as they changed hands; but unlike silver dollars, they are just as easy for an individual to handle as any other denomination of currency."

ADVANCED PLANNING

Of course it was necessary to win community awareness of and support for the $2 paydays if they were to be successful. So, several weeks before each payday, company representatives called on certain key people—bankers, newspaper men, and Chamber of Commerce officials—In Manteca, Salinas and Woodland. We explained to these community leaders the purpose of the $2-bill payday, and asked them to help us make it a success.

Equally important was the necessity of having our employees give the payday strong support. At each factory they received advance notice of the payday in a letter signed jointly by the factory superintendent, the president of the local union, and the agricultural district manager. This letter urged them to spend their $2-bills in as many local business establishments as possible, so that a maximum number of people could see at first hand how much our payroll contributes to the local economy.

The third major step in advanced planning involved the procuring, safekeeping and actual disbursing of the $2 bills. The bills had to be ordered from the Federal Reserve Bank of San Francisco. They were delivered to a designated bank in each of the three factory towns, where our accounting staff and employees of the banks joined forces to count them out in bundles of 25 and stuff these bundles into individual pay envelopes.

OTHERS TIED IN

Our discussions with community leaders led others in the factory towns to profit by, and therefore support, the $2-bill paydays. Many merchants had $2 specials in one form or another. Some marked usually more expensive goods down to $2 apiece. Others gave $2 discounts on certain items. Still others gave gifts to people bringing in $2-bills with specified serial numbers. Of course, the local papers actively solicited, and obtained, extra advertising for these $2 specials. Station KSBW-TV followed a $2-bill as it changed hands in Salinas. Many stores had displays of our products in their windows. The Mayor of Woodland formally proclaimed "Spreckels Sugar Lucky Two-Dollar Days" and urged the people of Woodland to use our products throughout the year.

Of course it is as yet too early to tell what perma-

(Concluded on Page 48)



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$24,000 in two's was counted into bundles by Paul Alston (left) and Harry Pearce at Woodland.



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THE AGRICULTURAL STAFF at Woodland receive their bundles of 25 two's from Harry Venning, District Manager.



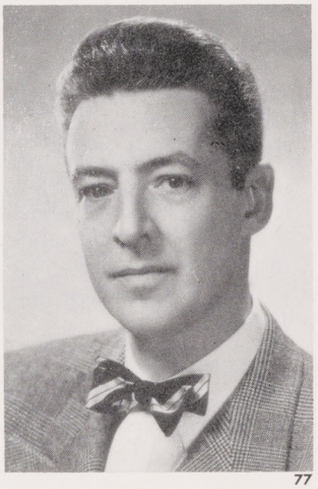
KSBW-TV Photo 76

WILLIAM KRAFT started the Spreckels Lucky $2.00 Day when he gave 25 two's to Jacquelin Meyers.



BEET SUGAR SALES ARE GAINING IN CALIFORNIA

By WILLIAM H. OTTEY
Vice President, Spreckels Sugar Company



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AS 1955 DRAWS to a close, it is a pleasure to report in these pages that there has been a marked increase in the sale of beet sugar here in California. Graphic evidence appears on the bar chart on page 48, and the following comparisons document the statement:

(1) In the 1953 crop year (August 1, 1953-July 31, 1954) 7,272,000 100-pound bags of beet sugar were delivered in California. In the 1954 crop year (August 1, 1954-July 31, 1955) beet sugar deliveries within the state totalled 8,055,000 bags, almost an 11 per cent increase.

(2) In the first nine months of the calendar year 1954, 5,586,000 bags of beet sugar were sold in California. For the first nine months of 1955, the corresponding figure was 6,709,000 bags, an increase of just 20 per cent.

It should be stated that an indeterminate but substantial "assist" (to use a baseball term) resulted from a 60 days' suspension of operations on the part of the single West Coast cane refiner, in June and July of 1955.

It is also reasonable to point out that the gains shown in the above percentage growth figures cannot be expected to be maintained through either the 1955 calendar year or the crop year of 1955-56, since the heavy sales of beet sugar in June and July 1955 helped to deplete the marketing allotments of the California beet sugar companies for the 1955 calendar year.

After allowing for these factors, however, there is still strong evidence of an encouraging growth this year in the normal market for sugar produced from sugar beets in this largest market in the West — California.

The increase in sales of our company's sugar in California benefits both the company and you, our growers. The more sugar we sell in "home" markets west of the Rockies, the less sugar we must market in mid-Western areas where higher selling costs (mainly high freight charges) reduce our returns (and yours) below those realized on Pacific Coast sales.

Let's look at some of the factors that make us optimistic.

The continued rapid growth of population in California following the war years has been one of the spectacular facts of American life. Since 1950, California's population has been increasing at a rate of 4% a year, while the national annual population increase has been only 1.6%. Any increase in population produces, percentage-wise, a comparable increase in total sugar sales, so it might be expected that the normal increase in beet sugar sales due to population growth in California should be about 4% per year. Projections of population growth in California for the 10-year period 1955-65 forecast an increment of 38 to 40%, so that the market for sugar here is certain to grow enormously over the next ten years.

However, beet sugar will not obtain its "share" of this ever-growing market merely by being available —it must be sold. Consumer acceptance must be broadened, and consumer preference must be developed. Here's a brief run down of activities that are contributing to an increased rate of beet sugar consumption in the nation's greatest beet sugar State, California:

IMPROVEMENT OF QUALITY AND BROADENING OF SERVICE FACILITIES:

Intensified competition has greatly stepped up efforts on the part of your company to produce sugars of the highest quality in the many forms, some of them new to the beet sugar industry, demanded by the industrial consumers, who still constitute the largest market for beet sugars produced in California. Our company is proud of its achievements in the Research and Operating departments directed toward products of quality that will render beet sugar invulnerable to competition, and place our sugars in the "preference" rather than merely in the "acceptance" category with large users. The company is continuing to acquire specialized equipment for the delivery of bulk and liquid sugars by tank trucks and rail cars to large industrial users who are turning to these modern methods of sugar use for reasons of plant efficiency and sanitation. In a competitive market, service is a vital determinant in this selection of sources of supply. The State of California and especially the industrial areas surrounding San Francisco and Los Angeles, are more and more becoming the source of supply for the sugar-containing products of the western States. Since so important a share of the market for beet sugar is with the industrial user, we at Spreckels continue to feel a primary responsibility in obtaining our share of the growth in this important field.

DEVELOPMENT OF THE MARKET FOR CONSUMER SUGARS

a) Activities of Western Beet Sugar Producers, Inc.

By now I am sure all of you are familiar with the activities of Western Beet Sugar Producers, Inc. which has, in the last year, undergone a radical change of organization and operational objectives. Under the leadership of Harold Belknap, with headquarters in San Francisco, it has set up six regional offices, one of which is in Los Angeles. From here, Regional Manager Lee Goodman and Home Econo-

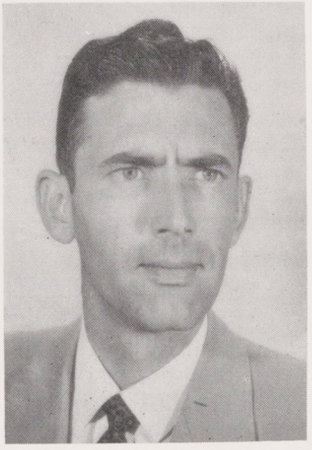
(*Concluded on Page 48*)

Notes From Our Field Men

Field Superintendents report items of unusual interest so that others on the agricultural staff will have the benefit of their findings.

These columns will, from time to time, report those items which seem to be of direct value to sugar beet growers.

W. R. DUCKWORTH
Woodland

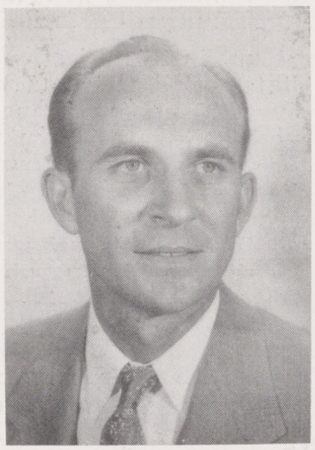


Superior Photo Service 78

"The hot, humid weather during mid-August caused no rapid increase in the incidence of leaf spot. Leaf spot was very difficult to find during August, and only occasionally was an infected beet found. By October 24, the first heavy infestation of leaf spot appeared in the Elkhorn area of the Del Paso district and a mild increase had appeared in the Yuba City area. There is no defoliation as yet, but the spotted beets can be picked out from a distance in most fields. The leaf spotting has appeared gradually over the past two weeks, with an appreciable increase during the past week.

"The disease will not be of too great a concern to the growers because of the rapid movement of beets. The harvest picture is such that most expected fields will be completed in 10 days. As yet there has been no increase in leaf spot symptoms in the Tudor area."

S. S. ANDERSON
Manteca



Superior Photo Service 79

"I was interested in several articles from the last issue of the Excerpts from Weekly Reports concerning red spider. It is my opinion that infestation of red spider is partly the cause of low sugars on three fields in the Comstock area. All three fields were planted the first week in February and had excellent care. They were heavily infested with red spider from a cherry orchard where control was lacking, about the last week of July. The average sugar test in these three fields is 1.7% lower than other fields out of the immediate area. The invasion of red spider happened about the time when these beets would normally be 'sugaring-up'."

JAMES E. GARDINER
Spreckels



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"A custom harvester man in my district has come up with a new idea on how to save wear and tear on his Marbeet foliage conveyor belts.

"He buys heavy rubber conveyor belting without lacing. Before he laces this belt he cuts it a full 16 ft. and grinds off the rubber covering on each side of the ends, thus countersinking the lacing below the belt surface.

1. It will not catch or snag due to the extra thickness at the lacing.
2. It will not wear the metal lacing as it continually drags across the metal parts of the harvester."

SPRECKELS GROWER WINS "BIGGEST BEET" AWARD

N. KENNETH GROEFSEMA is manager of Newhall Land and Farming Company's Merced Ranch. Ken learned about beet growing during the five years he worked for Spreckels Sugar Company as field superintendent and assistant agricultural superintendent.

How well he learned it was proved when he won a nation-wide contest for the biggest sugar beet—and



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PRISCILLA AND KEN GROEFSEMA display one of the smaller beets (32 pounds) selected from the 338 acre field which yielded 32.22 tons per acre. A bigger beet (34¼ pounds) won the "Big Beet" contest.

by the fact that he and his wife Priscilla are, at the time of this writing, boarding a Pan American World airliner bound for Honolulu.

The round trip and a week of pleasure in the Islands are the award presented by the Idaho Farm Bureau Federation as a result of their wiring the governors of every beet-growing state, inviting them to compete with Idaho beet growers in a "Biggest Beet" contest.

California beet growers eagerly accepted the invitation. The combination of California's soil and climate, Ken's know-how, and the Spreckels-developed S-2 seed variety won hands-down.

Newhall Land and Farming Company's winning beet weighed 34¼ pounds—the nearest competitor was an entry from Idaho weighing 28 pounds. Ken had half a dozen beets weighing over 30 pounds in the 338 acre field which yielded 32.22 tons per acre.

IS THIS A RECORD?

HOWARD J. DENNIS, a partner of Fred J. Banducci and James Banducci in Triple J Farms near Conner Station, harvested 5,613.7 tons of beets from 125 acres in 8½ days.

This is a lot of beets per acre and a lot of tons harvested per day—in fact it is a near-record for yield and is the highest daily output for a 2-row Marbeet harvester in our files.

For the first four days, one 2-Row Marbeet harvester, rebuilt by Fred Banducci to work on 30-inch rows, was pulled by a Caterpillar D-7. During the remaining 4½ days, another similar harvester, pulled by a Caterpillar D-6, went to work.

Here are the figures:

Spreckels Sugar Company Contract Number 82-2, 125 acres.
Tons of Beets Harvested.....5613.7 (First Net)
Tons per Acre.....45.04 (First Net)

Date— November	9	10	11	12	13	14	15	16	17
Tons Beets Harvested	243.3	349.5	484.5	579.5	967.5	758.9	960.6	948.8	333.5
Number of Harvesters	1	1	1	1	2	2	2	2	2



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HOWARD DENNIS, operating his 2-row wide-space Marbeet harvester, was too busy setting a harvest record to pose for a closeup.

EXTENSION SERVICE ISSUES BEET TOP LEAFLET

THE VALUE AND USE OF SUGAR BEET TOPS is the title of a 12 page leaflet prepared by F. J. Hills, Reuben Albaugh, and Robert Pearl of the Agricultural Extension Service.

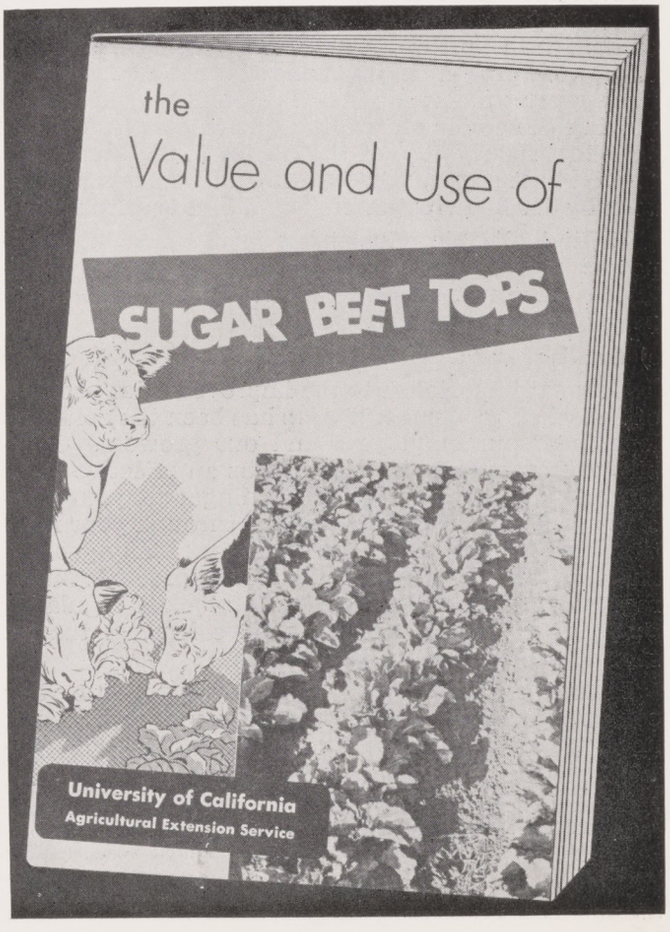
There is much more value in beet tops than is at present utilized. Therefore, this leaflet is not only timely, but should be a part of every beet grower's library for future reference.

Topic headings are:

More Profit for Everybody
Value of Beet Tops as Livestock Feed
Sugar Beet Tops as Green Manure
How to Use Beet Tops for Livestock Feed
Pasturing
Baling
Silage
Feeding Green Beet Tops

The leaflet may be had gratis by writing:

Public Service Office
University of California
Davis, California



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$100,000 QUESTION

(Continued from Page 44)

nent effect these $2-bill paydays will have on our sugar sales in these markets. But we have reason to believe that the people of Manteca, Salinas, and Woodland have a keener appreciation of how a local industry like ours contributes to their economic well-being. And certainly a big majority of them know now that it is Thomas Jefferson's likeness that appears on a $2-bill.

BEET SUGAR SALES

(Continued from Page 45)

mist Nancy Haven range throughout the State, publicizing our industry and promoting the use of beet sugar. Mr. Goodman described this program in some detail in the last issue of the BULLETIN, and many of you have seen him and Nancy Haven in recent weeks at your district meetings. WBSP seems to us to have made a noteworthy contribution in making beet sugar brands available to consumers here in California.

b) Consumer Advertising and Merchandising

The problem of causing more consumers to reach for Spreckels' brand of items, is a complicated and difficult one. We have greatly intensified our program of consumer advertising and merchandising. Some of these activities are radio, including participation in the Mel Venter "Breakfast Gang" show; heavy "spot" announcements in connection with the Telequiz promotion in selected markets; a billboard campaign in northern California; intensive factory-town area programs, involving the use of radio and newspaper media; PUCK—the comic weekly, employing the comic strip technique to carry our message into nearly 50% of the homes in the area. Our film on beet sugar, "Sweetness and Light" has been seen by 540,000 Westerners—and that is only a start.

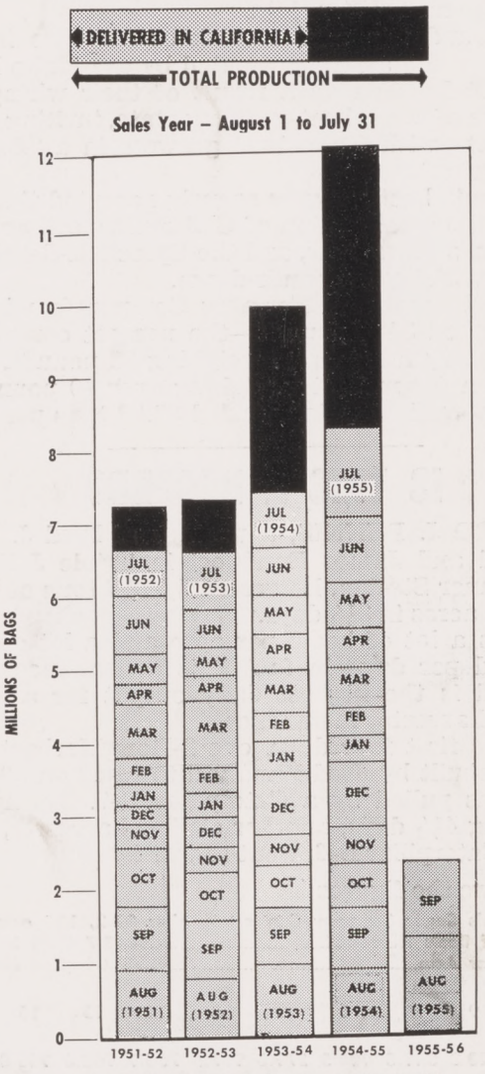
Behind all this advertising is the trained manpower at the retail level, promoting and merchandising in our continuing effort to persuade more people to buy Spreckels Sugar.

c) Employee and Grower Loyalty

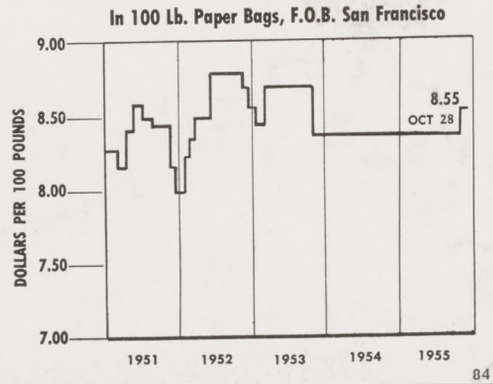
Of great importance to the improved sales position of Spreckels' consumer sugars has been the constant loyalty of our employees and our growers. Combined, these efforts have served as an effective sales factor by supporting Spreckels Sugar at your grocers and by "spreading the word" through your relatives and friends. This has influenced many grocers and supermarket managers to stock Spreckels Sugar regularly. And once our sugar is stocked regularly, these grocers and managers have learned that it sells as well as any other brand.

Please be assured that we deeply appreciate your contribution to the increase in our sugar sales. And, needless to say, I hope you will keep up the good work!

PRODUCTION AND DELIVERIES OF BEET SUGAR IN CALIFORNIA



QUOTED PRICE OF BEET GRANULATED SUGAR



The SPRECKELS SUGAR BEET BULLETIN is issued bi-monthly by the Agricultural Department of the Spreckels Sugar Company as a service to its growers.
Mention of specific methods, devices and implements does not constitute an endorsement by the Company.
All photographs by the editor unless otherwise indicated.
AUSTIN ARMER, Editor SPRECKELS SUGAR COMPANY WOODLAND, CALIFORNIA

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